

























# PRELIMINARY GENERAL CATALOGUE

OF 6188 STARS FOR THE EPOCH 1900

INCLUDING THOSE VISIBLE TO THE NAKED EYE  
AND OTHER WELL-DETERMINED STARS







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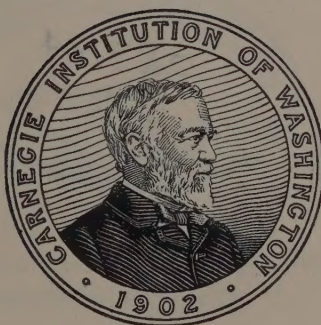
INCLUDING THOSE VISIBLE TO THE NAKED EYE  
AND OTHER WELL-DETERMINED STARS

PREPARED AT THE DUDLEY OBSERVATORY,  
ALBANY, NEW YORK

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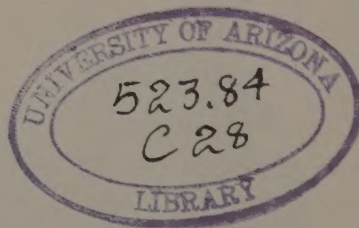
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## INTRODUCTION.

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The General Catalogue of 6188 stars herein contained is the result of an attempt to deduce for those stars the most accurate positions and motions that are readily attainable from the means at command. Computation of the motions has been the primary aim of this work. Putting the results in the form of a star-catalogue for the epoch 1900 is a natural method of exhibiting these results and is, apparently, the most useful way in which they could have been presented; but it has not been at any time the first consideration.

The accuracy attained, while governed in the first line by the supply of good observations that have hitherto been made upon these stars, in a very important degree has also been limited by practical considerations as to the amount of computing that has been available. The liberal support of this work by the Carnegie Institution has somewhat modified this point of view, so that the question has virtually been: what amount of computing can be wisely and economically devoted to this object — how much is it worth while to expend?

The computations for this catalogue are intended to be practically exhaustive (so far as these stars are concerned) of the meridian-observations of precision which have been made from the time of Bradley to the present and that have been collected in star-catalogues of comparatively superior accuracy or extent. Such zone-observations as those of Lalande, Bessel, Argelander, Lamont, and others, were omitted from the computations as lacking in the precision requisite for the present purpose. There were also excluded many series of observations (mostly found in periodical publications) that contain only a small number of stars — partly because of the small return in proportion to the labor involved in the use of such catalogues, and more particularly because of the difficulty of ascertaining the systematic corrections that such catalogues may require. Strictly zodiacal catalogues were not included in the computations because, among other reasons, even without them, the motions of the stars within the zodiacal region can usually be determined with greater precision than those of similar classes of stars without that region — because many of the star-catalogues of earlier dates are more complete in the neighborhood of the zodiac. A list of the catalogues of observation employed in the construction of this work is given later in this Introduction.

Many years have passed since there has been available for the use of astronomers a general catalogue of stars founded upon the combined results of all the principal catalogues of observation. Heretofore the *General Catalogue of 8377 Stars by Francis Baily*, published by the British Association for the Advancement of Science in 1845, has constituted the first and last attempt of this kind to collate the results of meridian-observations upon the stars in a large and comprehensive way. Evidently designed to facilitate the progress of meridian-astronomy in practical ways, it speedily came into general use as a work of reference of very great utility. It was probably not designed by its author as a basis of further investi-

gation in any critical problem requiring the most accurate available values either of the positions or motions of the stars. The records of observation then were too scanty to afford much hope that the best values of proper-motion which could be computed for the generality of stars at that time would have been very much better than rough approximations, or otherwise than very unsafe for the purpose of prediction. Practical considerations seemed to be opposed to any very great refinement in such computations; and accordingly no such refinement appears to have been attempted in the construction of the Catalogue of the British Association. Furthermore, owing to the amount of reliance placed upon the precision of star positions obtained from Lacaille's zones (1750) and upon Taylor's earlier results at Madras (which contained very anomalous errors in declination) the proper-motions of the far southern stars printed in the "B. A. C." are wholly unreliable.

In the first years after its publication the B. A. C. was doubtless used to a considerable extent for predicting positions of the stars to be used in problems of precision; but in the course of time it must have been distinctly seen that this use of the Catalogue was no longer justified. Yet the use and appreciation of that work scarcely waned during the first quarter of a century after its publication; and on many points it is consulted with advantage even yet.

It seems worth while to have recalled these facts about a notable work in the history of astronomy, in order to throw into proper relief the remarkable fact that more than sixty years have elapsed since the publication of the B. A. C. without the appearance of a work, or combination of works, to take the place it once held. The construction of such a catalogue has been suggested from time to time in a tentative way, but seems always to have been regarded without definite encouragement. Apparently two ideas have operated effectively as the chief obstacles in carrying out the preparation of an extensive general catalogue of stars. The first has been that, pending the completion of certain works of meridian-observation, the time has not been ripe for the production of such a work. The second is analogous to this, viz.: that a general catalogue aiming to exhaust the existing material of observation upon the brighter stars (4,000 to 20,000 in number, say) would be almost necessarily out of date soon after its publication. Very quickly the need for a new edition would be felt, owing to rapid accumulation of further meridian-observations. But these objections, whatever force they may have against the construction of a star-catalogue chiefly for the sake of the star-positions it contains, would have far less force against the general computation of proper-motions. From time to time these are needed and must be had in various departments of astronomical research, and especially for the study of general stellar problems in a variety of forms. Therefore, the question whether it is worth while to construct a general catalogue of the principal stars becomes a question whether we shall incur the proportionally small additional labor and expense involved in putting general computation for proper-motions into the form of a published catalogue, after the main portion of the required computations has been effected for another purpose, of conceded utility. Perhaps the answer to a question like this can best be referred to the test of future experience. At any rate, it has seemed to the author that a great variety of uses would be subserved by the publication of such a catalogue.



## SCOPE OF THE CATALOGUE.

This Preliminary General Catalogue contains the computed positions and the motions, for the epoch 1900, of 6188 stars that are regarded as specially important.

That the stars ordinarily visible to the naked eye are of special interest would probably be generally admitted without serious protest, not only because that is the class of stars which most attracts attention and with which we are best acquainted, but also because it is extremely probable that these stars are in general among our nearer neighbors. On the whole they have been more frequently and accurately observed in the past than any of the fainter classes of stars. The present Catalogue contains about 4030 stars rated upon the natural, or historic, scale herein adopted as of the sixth magnitude, or brighter. Of these the count shows 1919 in the Northern and 2111 in the Southern hemisphere. These numbers are approximate only, since they are somewhat dependent upon the treatment of double stars; and because they are still more dependent on the uncertainties in determining the brightness of the stars.

Of the remaining 2158 stars — all fainter than sixth magnitude — a few are included because of their proximity to brighter stars; others because they were observed by Bradley (though a very few Bradley-stars have been omitted); and still others because they are among the stars whose positions, though not observed by Bradley, were determined with a considerable degree of accuracy previous to 1850. For all these stars it was possible to determine their motions with greater accuracy than that which attaches to the generality of faint stars not included in this Catalogue. Therefore, these stars are especially interesting for two reasons among others: *First*, on account of the relative accuracy of their computed motion, present and prospective, they afford suitable material from which to secure enlargement of the existing lists of standard stars; *secondly*, these, together with the great majority of the stars visible to the naked eye, furnish the best available means for critical tests upon certain points that may come into consideration relative to systematic motions of the stars.

## HISTORY AND DESIGN OF THIS WORK.

Perhaps the easiest way to describe the place in the line of sidereal research which this work is designed to fill, as well as to indicate the ideas and purposes upon which it is founded, is to note in a cursory way successive steps in its evolution.

Many years ago a plan was formed at the Dudley Observatory for a critical discussion of the motions of all stars to which have been attributed, with reasonable probability, motions as great as 10" per century. The work progressed very slowly at first, in the intervals of other employments; but as it proceeded the conviction grew that the problems for which we need a knowledge of stellar motions require comprehensive (not fragmentary) treatment, if a given, large amount of labor is to be expended to the best advantage. Thus, it is even more important that stellar motions shall be free from systematic errors than that they shall be merely precise in the differential sense. But if that be so, the most responsible part of a work

aiming to compute accurate values of proper-motions for a very large number of stars might be the ascertainment of the systematic corrections required by the various star-catalogues. This will readily appear upon consultation of the Tables of Systematic Corrections, in Appendix III of this volume. This correction is especially marked for Bradley's declinations, hitherto a very important element in the derivation of proper-motions. For large areas of sky south of  $+40^{\circ}$  of declination, centennial proper-motions in declination computed by means of uncorrected declinations of Bradley-Auwers compared with perfect declinations 100 years later would systematically differ from the corresponding quantities printed in the present work by  $1''.5$ , or more; and in the zone  $+34^{\circ}$  to  $+38^{\circ}$  by  $2''$  or more. While this may be an extreme illustration it serves to indicate the nature of possible effects due to the application of systematic corrections to the positions contained in the catalogues. It becomes obvious that when we are dealing with the smaller proper-motions the elucidation of the amount and direction of residual-stardrift in various parts of the sky may be dependent upon the systematic errors of the star-catalogue in a very important degree. Governed by these and other considerations, the author decided to alter the original plan of reluctantly confining his attention to stars having only comparatively large proper-motions, and, as the indispensable preliminary to his work, to institute a thorough inquiry as to the systematic corrections required by the various catalogues of observation in order to make each so far as possible systematically conformable with the combined result from all.

It is not necessary here to trace the various steps in these operations. It is sufficient to say that the plan involved the preparation of an extensive catalogue of standard stars. The close of an important stage of this work was marked by the publication of the *Catalogue of 627 Principal Standard Stars*, together with various chapters explaining the methods employed in the construction of that catalogue and exhibiting, also, the systematic corrections required by the various star-catalogues in order to bring them into conformity with this new system. (*Ast. Jour.*, Vol. XXIII.) These articles were also reprinted in a separate publication entitled, "*Catalogue of 627 Principal Standard Stars*." The systematic corrections there published have since been subjected to thorough revision on the basis of a greatly extended list of *quasi*-standard stars; but, fundamentally, there has been no sensible alteration of the general system.

From the beginning of this work it had been assumed to be quite as important that we should know the motions of stars in the Southern hemisphere as in the Northern. It would, therefore, be important for ascertaining systematic corrections not only that there should be formed a new and very extensive catalogue of standard stars, distributed over the entire sky from pole to pole, but also that the positions should form a consistent and homogeneous system derived from careful consideration of all suitable observations — southern as well as northern. This catalogue would have to be extensive, because it would be impossible to ascertain properly the systematic corrections required for the larger catalogues — like **Arm 40**, **Radcl 45**, **Bruss 65**, **Cord 75**, **Cape 80**, etc. — without a much larger number of comparisons with standard stars than had been available with the existing catalogues



of standard stars. In order to facilitate the selection of these stars it was apparent that the safest and most economical plan would be to form a card-catalogue of all the stars contained in what may be termed catalogues of precision of a date of observation earlier than the middle of the nineteenth century. Those stars contained in a large number of these earlier catalogues would be more useful than others for ascertaining the systematic corrections of these same catalogues, both because of the frequency of their use and also, since the motions of such stars can be more precisely computed, they make better standards. This course, once adopted, rapidly led to extensions of the original plan. After the older catalogues of observation had been drawn off upon the cards (except fainter stars of **Groombr 10** and **Radcl 45**), including all the important ones of an observation-date earlier than 1855, the original intention had been not to include the later catalogues entire, but to transcribe only for stars found in the earlier catalogues. But it now seemed that the inclusion of all stars down to the seventh magnitude, though it would much increase the labor of transcription for the remaining catalogues, might later prove to be very desirable in view of the development of our plans then going on; and that the collection so formed would, in any case, constitute an asset of value. This extension of the list was effected slowly and rather imperfectly at first, but subsequently was improved. In its present state the card-catalogue contains about 25,000 stars. There are included all that are noted in the *Bonn Durchmusterung*, *Potsdam Photometry*, *Harvard Photometry*, or the *Uranometria Argentina* as of the magnitude  $7^m.0$  or brighter.

The inclusion in our list of stars down to the seventh magnitude, in addition to all stars occurring in certain catalogues of precision of the first half of the nineteenth century, was primarily due to the desire of selecting stars upon some simple criterion which should give promise at the same time that the stars so selected would be:

1. On the whole, nearer our system than the stars not included.
2. As a rule, better observed than the others.
3. For certain technical reasons, not chosen with reference to the amount of proper-motion any particular star may have.

In this collection was presented an almost irresistible temptation to ascertain, so far as possible, the motion of each star therein, and eventually to produce an extensive general catalogue of the positions and motions of these 25,000 stars.

Meanwhile we were at work upon the "*Catalogue of 627 Principal Standard Stars*," already mentioned, and upon its subsequent extensions, resulting for the time being in computed positions and motions for about 2500 so-called Standard Stars.

About that time, in 1903, the Carnegie Institution of Washington had come to the aid of this work; and three years later had so far increased its interest as to develop this project into its Department of Meridian Astrometry, with liberal appropriations for carrying out the construction of the proposed large general catalogue (including about 25,000 stars) to which allusion has already been made. To complete this extensive work, including heavy tasks in meridian-observation as planned, would evidently be the labor of many years. The question naturally came up whether it would be necessary to defer the publication of all catalogue-

results until the completion of the entire work, so far as now definitely planned. It seemed to the author that, generally speaking, the work ought to be so planned that parts of it which may be useful in the progress of science could be published with advantage whenever such results in a well-defined field have been attained in the current computations, even though these partial results might be swallowed up later in the final results.

Meanwhile, the desire to provide the means for present utilization of some of the smaller and less precise star-catalogues, as well as of the *Gesellschaft-zones*, through the ascertainment of their systematic errors, had brought about the increase of the so-called standard catalogue to nearly 4000 numbers. It then appeared that to increase this list still further, to include especially all stars of the sixth magnitude or brighter, would add, proportionally, no excessive amount of labor. Thus the resolution was somewhat suddenly formed to present for publication, at an early date, this General Catalogue, preliminary to the much more extensive one that is contemplated as among the favorable probabilities. These results might have been held back to await completion of the larger work, but this course would have entailed delay in making generally available what are believed to be useful results.

Thus the preparation of this work for publication at once is not so much the result of an original deliberate plan as it is the consequence of an evolution in the progress of these investigations.

In addition to acknowledgments for assistance in the preparation of this Catalogue furnished by Dr. Seth C. Chandler, and by the directors (and other astronomers) of various observatories, mentioned at appropriate places in these pages, my thanks are due to the corps of assistants and computers who have labored so zealously upon this work. Mr. Arthur J. Roy, chief assistant, has been of very great service in all departments of the work, and particularly in applying the checks and scrutiny necessary for the avoidance of errors in the final work. For this duty he has an unusual aptitude; and if the results of computation as they appear in the final manuscript should prove to be unusually free from mistakes, this will be due as much to the skill and diligence of Mr. Roy as to my own efforts. Mr. Varnum, besides other responsible work, took charge of the solution of equations of condition employed in deduction of the positions and annual variations of the stars. Miss Beulah Benway is also deserving of special recognition for the great extent and accuracy of her work upon the more responsible parts of the computations. In fact, all the members of the staff of assistants and computers labored with the zeal and industry betokened by a personal interest in the work. The reading of proof-sheets for the Catalogue itself was carried through, during my absence from the country, under charge of Mr. Benjamin Boss, Secretary of the Dudley Observatory.



## DESCRIPTION OF THE CATALOGUE.

A few words more specifically descriptive of the contents of the Catalogue and explanatory of certain points in its scope, construction, and use may now be in order. First, let us consider the material of observation actually included in its construction. Search was made in every published catalogue of the following list for positions of stars contained in this Preliminary General Catalogue. It does not seem necessary to give the full title in each case, but only enough to make the identification clear. The abbreviations ordinarily employed in our manuscript computations to designate the respective catalogues are also given.

- Br 1755.** Auwers's new reduction of Bradley's transit and quadrant observations, St. Petersburg, 1888.
- Pi 00.** Piazzi's observations made at Palermo around 1800, second edition 1814.
- Groomb 10.** The new reduction of Groombridge's circumpolar observations around 1810, by Messrs. Dyson and Thackeray.
- Kön 15.** Bessel's right-ascensions from the Dolland Transit reduced to 1815, *Königsberger Observations*, Parts 39 and 40. The corresponding declinations have not been employed.
- Grw 15.** Auwers's new reduction of Pond's observations at Greenwich, 1811-1819, reduced to 1815.
- Dpt 15.** Right-ascensions from Struve's transit-observations at Dorpat in 1814-1815. (*Dorpat Observations*, Vol. I, Part II.) Manuscript catalogue; see Rem. (4), App. III of this volume.
- Kön 20.** Bessel's fundamental observations, around 1825, with the Reichenbach Circle. The right-ascensions are taken partly from the *Berlin Memoirs* for 1825, p. 23, of Part II, and partly from the *Königsberger Observations*, Vols. VI and X. The declinations are taken from Döllén's revision of Bessel's reduction, as published in Vol. II, *Recueil de Mém. Obs. Cent. de Russie*, pp. 203-232.
- Schw 28.** Schwed's circumpolar observations reduced by Oeltzen to 1828. (*Denkschriften der Wiener Academie*, Bd. X.)
- Brisb 25.** The Brisbane Catalogue for 1825. The right-ascensions are not employed.
- Cape 30.** The observations of Fallows at the Cape of Good Hope.
- Camb 30.** Airy's Cambridge Observations for 1830. (*Mem. R.A.S.*, Vol. X.)
- Wrot 30.** Wrottesley's right-ascensions for 1830. (*Mem. R.A.S.*, Vol. X.)
- St H 30.** Johnson's *Catalogue of 606 Stars* for 1830 from St. Helena observations.
- Åbo 30.** Argelander's Åbo Catalogue for 1830.
- Grw 30.** Pond's catalogue of 1112 stars for 1830.
- Dpt 30.** Struve's catalogue for 1830 in the *Positiones Mediæ*. "Correctiones Ultimæ," pp. 361-371, were first applied to the catalogue positions. The positions of certain standard stars given for 1824 were taken from the Introduction, pp. 48-50.
- Cape 33.** Henderson's observations at the Cape of Good Hope reduced to 1833. (*Mem. R.A.S.*)
- Madr 35.** Downing's new reduction to 1835 of Taylor's Madras observations.
- Edinb 40.** Halm's new catalogue for 1840 of Henderson's observations at Edinburgh, 1835-1844.
- Arm 40.** Robinson's Armagh Catalogue for 1840.
- Cape 40.** Cape Catalogue for 1840, reduced by Stone.
- Grw 40 and Grw 45.** The two parts of the *Greenwich 12-yr. Catalogue*.
- Radcl 45.** The Radcliffe Catalogue of 6317 stars for 1845 by Johnson.

- Pulk** 45. Catalogues for 1845 of stars observed with the Transit and Prime Vertical Circle at Pulkowa.
- Paris** 45. First epoch, 1845, of the Catalogue of the Paris observations — mainly reobservation of Lalande stars.
- Stgo** 50. Catalogue of 1963 stars for 1850 from Gillis's observations at Santiago de Chile. (*Wash. Obsns.*, 1868.)
- Gillis Z** 50. Catalogue of 16,748 stars for 1850 from observations of southern circumpolar stars at Santiago, Gillis. (*Wash. Obsns.*, 1890.)
- Cape** 50. Cape Catalogue for 1850 edited by Gill.
- Grw** 50. The Greenwich six-year catalogue for 1850.
- Pulk** 55. Catalogue for 1855 of observations made with the Repsold Meridian-Circle of the Pulkowa observatory. This catalogue is in two parts, one containing 3542, and the other 1404 numbers respectively. (See *Pulk. Obsns.*, Vol. VIII.)
- Carr** 55. The circumpolar catalogue of Carrington for 1855.
- Stgo** 55 and **Stgo** 60. The catalogues from Santiago observations by Moesta, reduced to 1855 and 1860 respectively.
- Wash** 60. Yarnall's catalogue for 1860, third edition, Frisby.
- Cape** 60. The Cape Catalogue for 1860, reduced by Stone.
- Grw** 60. The Greenwich seven-year catalogue for 1860.
- Radcl** 60. The second Radcliffe Catalogue for 1860, Main.
- Melb** 60. Catalogue of 546 stars observed at Williamstown (Australia) and reduced to 1860. (*Melb. Obsns.*, Vol. I.)
- Paris** 60. Second epoch, 1860, of the Paris Catalogue.
- Grw** 64. The second seven-year catalogue of Greenwich for 1864.
- Harv** 65. Catalogue for 1865 of right-ascensions observed at the Harvard College observatory, 506 stars, Safford. (*Harv. Ann.*, Vol. IV, Pt. II.)
- Cape** 65. The Cape Catalogue for 1865, prepared by Gill.
- Bruss** 65. The general catalogue for 1865 of the Brussels observations, 1857-1878.
- Pulk** 65. Observations made at Pulkowa with the Transit and Vertical Circle reduced to 1865, and published in four catalogues.
- Grw** 72. The Greenwich nine-year catalogue for 1872.
- Melb** 70. The Melbourne Catalogue for 1870.
- Wash** 75. The Washington Catalogue for 1875, transit-circle, Eastman.
- Cord** 75. Gould's Cordoba *General Catalogue* of 32,448 stars for 1875.
- Madr** 75. Catalogue of Madras observations for 1875.
- Pulk** 75. Romberg's catalogue for 1875, of observations made at Pulkowa with the meridian-circle.
- Becker** 75. Becker's catalogue for 1875 of 521 Bradley-stars, Berlin.
- Harv** 75. The catalogue for 1875 of 1213 stars, Rogers. (*Harv. Annals*, Vol. XV, Pt. I.)
- Paris** 75. Third epoch, 1875, of the Paris Catalogue.
- AGZ** 75. The zone-catalogues of the *Astronomische Gesellschaft* for 1875, extending from  $+80^{\circ}$  to  $-10^{\circ}$  ( $+70^{\circ}$  to  $+75^{\circ}$  excepted). (The places of these stars were adopted in the computations only for a small number of stars unusually deficient in observations of an early date.)
- Cape** 80. Stone's Cape Catalogue for 1880.
- Grw** 80. The Greenwich ten-year catalogue for 1880.
- Melb** 80. The second Melbourne Catalogue for 1880.
- Saff** 85. Catalogue for 1875 of right-ascensions of circumpolar stars. Safford, Williamstown, Mass.



- Strassb 85.** The catalogues for 1885 from the Strassburg observations (Vol. II); the first, of 254 stars; second, of 858 stars; third, of 368 fundamental stars.
- Cape 85.** Gill's Cape Catalogue for 1885.
- Pulk 85.** Pulkowa catalogues for 1885, based upon observations with the transit and prime vertical circle. ("Etoiles occasionnellement observées," in 1845, 1865, and 1885, are included in the computations for the General Catalogue.)
- Radcl 90.** Stone's Radcliffe Catalogue for 1890.
- Cinc 90.** Porter's Cincinnati Catalogue for 1890.
- Cape 90.** Gill's Cape Catalogue for 1890.
- Grw 90.** The Greenwich ten-year catalogue for 1890.
- Berl 90.** Küstner's Berlin catalogue for 1890. (Taken partly from *Ast. Nach.*, Nos. 3392 and 3393, and partly from a manuscript kindly forwarded by Professor Küstner.)
- Madn 90.** Results of observations around 1890 upon the stars of the *Berliner Jahrbuch*, Brown, Madison, Wis.
- Lisbon 90.** Results in right-ascension of observations around 1890 upon stars of the *Berliner Jahrbuch*. Rodrigues, Lisbon. (*Ast. Nach.*, 3813-3814.)
- Pulk 92.** Catalogue of right-ascensions for 1892 from observations made at Pulkowa.
- Mün 92.** Small catalogue of declinations observed with the Repsold circle at Munich. Bauschinger.
- Lick 95.** Catalogue for 1895 of 310 ephemeris-stars observed by Tucker. (*L. O. Publ.*, Vol. IV.)
- Berl 95.** Battermann's catalogue of 1640 stars observed with the Repsold circle of the Berlin observatory.
- W-Ott 97.** Small catalogue of 184 declinations, observed and reduced by Grossmann, at the Von Kuffner Observatory, Wien-Ottakring. (*Kön. Sächs. Ges. der Wiss.*, Vol. XXVII.)
- Lick 00.** Tucker's catalogue (1900) from reobservation of Piazzzi-stars south of the equator. (*L. O. Pub.*, Vol. VI.)
- Mün 00.** Oertel's catalogue for 1900 of 208 fundamental stars, observed at Munich, — Repsold micrometer. (*Ast. Nach.*, 3942-3943.)
- Cape 00.** The Cape catalogues for 1900, including the catalogue of comparison-stars in the zone,  $-40^{\circ}$  to  $-52^{\circ}$ . (Advance copy.)
- Cinc 00.** Porter's catalogue of reobservation of Piazzzi-stars north of the equator. Cincinnati, 1900.

As a rule, observations which exist only in the form of annual catalogues, like the Radcliffe observations following **Radcl 60**, the Cambridge observations following **Camb 30**, and some others, were not employed in the present computations. An exception to this practice exists in the case of declinations of the principal standard stars contained in the author's former work, *Declinations of 500 Stars*; for these the authorities therein given were also employed as they had been prepared in the manuscript of that work. Nor was it considered advisable to make any special effort to secure all the results of available catalogues which may now be existing in manuscript at the respective observatories. Yet some requests for such material have been made from here in several instances, and have met with most generous response, as indicated in the following list:

- Berl 90.** Manuscript catalogue of 1300 stars for 1890 from Küstner's meridian-observations at Berlin, sent by Professor Küstner. This catalogue includes the results published in *Ast. Nach.*, Nos. 3392 and 3393.
- Melb 90.** *Melbourne General Catalogue of 3068 stars for 1890*, manuscript copy, forwarded by Director Baracchi, together with copies of many annual catalogues of stars observed in the interests of the astrographic work.

- Bonn 00.** Extensive extracts from the new general catalogue, in manuscript, of Küstner's observations at Bonn,  $+0^{\circ}$  to  $+54^{\circ}$ . The partial catalogues were published in Nos. 4, 5, and 6 of *Veroffentlichen der Kön. St. zu Bonn*. However, when these extracts were received the printer's sheets of this Catalogue were substantially complete as to the positions and motions of the stars; but a careful comparison of P.G.C.-**Bonn 00** was made and the results will be found in the table of systematic corrections, Appendix III.
- Cape 06.** Catalogue of 1390 stars of which 1150 are south of  $-36^{\circ}$ , in manuscript, from Sir David Gill, Astronomer Royal at the Cape. These results, derived from observations made at the author's request, were completed within one year from beginning of the observations and communicated to the Dudley Observatory within a few weeks after the termination of the observations. There were in general three observations of each star, occasionally more. With **Cape 00** they constitute a complete reobservation of the stars in this Preliminary General Catalogue south of  $-36^{\circ}$ .

Other manuscript contributions and advance printers' sheets were sent to the Dudley Observatory in aid of these computations by the directors of the Paris, Cape, Edinburgh, and Greenwich observatories, and by Professor Porter of the Cincinnati observatory, which subsequently were superseded by the published catalogues.

The later epochs of this Catalogue have been also strengthened by observations made at the Dudley Observatory that are not yet published. Every star of the Catalogue between  $-21^{\circ}$  and  $-37^{\circ}$  (as well as some others) has received at least two observations by the author with the meridian-circle of the Dudley Observatory at a mean date of about 1898. Nearly all stars of this Catalogue between  $+1^{\circ}$  and  $-2^{\circ}$  were observed twice near the epoch, 1900, by Mr. Arthur J. Roy, first assistant of the Dudley Observatory. Between 700 and 800 of the stars north of  $-20^{\circ}$  that were most in need of special observation were observed here four times, or more, in the years 1905-1906. These stars may often be recognized by the large p. e. of  $100 \mu$ , and the comparative lateness of the epoch. They are mostly between the fifth and sixth magnitudes.

In a very few instances of stars between the fifth and sixth magnitudes that are extremely deficient in earlier observations, the *Histoire Céleste* of Lalande, Rumker's catalogues for 1836 and 1850, Argelander's observations published in Vol. VI of *Bonn Observations*, and some other authorities of comparatively feeble weight, were included in the computations, with rough estimates of the systematic corrections and weights.



## THE STANDARD CATALOGUE.

Primarily the standard catalogue contained within this General Catalogue has been prepared for use in this investigation. It is designed to serve any other purpose where high precision is required. In the present investigation the standard catalogue and the systematic corrections were involved together, virtually as the solution by successive approximations of equations containing a large number of unknown quantities. The problem was to make the sums of squares of the deviations of the several component star-catalogues at various epochs from the standard a minimum. The effect should be, that when a catalogue of observation, by the application of systematic corrections to it, has been brought into close general conformity to the standard, it represents the latter at that epoch, and for that epoch extends the latter to stars not already contained in the standard. To a certain extent, the catalogue of observation so treated represents systematically the excellence and weight of all the observations concerned in the construction of the standard. To what extent this will actually be the case will depend chiefly upon two conditions: first, upon whether the standard catalogue has been made to represent, as consistently as possible, the sum total of observations having fundamental value; secondly, upon whether the relation of the individual catalogue to this standard can be ascertained with the required accuracy. The latter condition is one whose importance is more liable to be overlooked. If the weight of determination for the individual catalogue to be compared is feeble, or the number of possible comparisons with the standard too few, then, no matter what the precision of the standard may be, the resultant effects of casual error in the individual catalogue may be so mixed up with the true systematic error as to vitiate the result. One of the distinctive features of the present work is that it aims to minimize this difficulty by furnishing a standard catalogue containing a very unusually large number of stars to represent it. The best determined standards alone are suitable for ascertaining the systematic corrections of the catalogues of superior weight — say those whose computed probable errors of position in either coördinate is not more than  $0''.10$  or  $0''.12$  at the epoch of comparison; while quite one-half of the stars in this General Catalogue are standards suitable for ascertaining the systematic errors of the general run of the larger catalogues of observation. It seems scarcely necessary to remark that there is no well-defined line of distinction between standard stars and others. What may be considered a suitable and sufficient standard for one purpose may not do at all for another. For instance, as standards in differential observations with meridian instruments at the present time one might safely decide that where the probable error for position in 1910 is given as  $\pm''.08$ , or less, the star-place is sufficiently accurate for the most refined use. Such stars might be termed primary standards. But for the less exacting class of zone-observations, or for miscellaneous observations, it may be considered that a probable error of the standard for 1910 of  $''12$ , or even  $''15$ , could be tolerated; since it is rarely the case that the probable error of a single observation would not be at least twice that amount.

An account of the methods by which this standard catalogue was constructed, in reasonable conformity with the foregoing requirements, is contained in a series of papers published in Vol. XXIII of the *Astronomical Journal*. (Subsequently collected and reprinted under the title: *Catalogue of 627 Principal Standard Stars*.) The successive approximations required in extending the number of stars contained in the Standard Catalogue, the estimate of value of each catalogue of observation as an original, or independent, source of determination, and the devices employed in the treatment of individual catalogues and in the combination of one with another, are there set forth, probably in sufficient detail to permit the formation of an independent judgment as to the character of the result. In much the same way the arrangement in chronological order of the systematic corrections of Appendix III (this volume) zone by zone will afford a rough means of estimating whether the system of the standard sufficiently well represents at various epochs the catalogues having value as independent sources of knowledge as to star positions.

In this connection, however, it should be noted that this method will not give reliable information as to an effect upon the stars of an incorrectly assumed motion of the equinox. This requires a special investigation. In the present work the equinox determined in 1872 by Professor Newcomb has been adopted. (See: *On the Right-Ascensions of the Equatorial Fundamental Stars*, by Simon Newcomb, *Washington Observations*, 1870.) This probably requires material revision; but any such revision would affect all the proper-motions in right-ascension by a constant quantity.

Furthermore, it should also be noted, as to the declinations, that pairs of contemporaneous catalogues, one emanating from an observatory in the Northern and the other from an observatory in the Southern hemisphere, have been treated together in the present investigation for mutual correction of their results, previously to their introduction into the formation of the Standard Catalogue. Such pairs were formed, for example, from **Camb 30** and **Cape 33**, **Grw 60** and **Cape 60**, **Grw 64** and **Melb 70**, and from many others suitable to the purpose. The comparison of the members of these pairs gave rise to equations for the determination of corrections to the refractions adopted in the reduction of the respective catalogues. It may well be urged that no series of determinations of star-declinations can be critically regarded as sufficiently independent that rests upon a system of refraction-corrections determined at another observatory, for another horizon and for another exposure of the thermometer. But in spite of certain technical objections, it can scarcely be contended that the combination of contemporaneous results from northern and southern observatories in pairs (*Ast. Jour.*, 540; also *Declination of 500 Stars*, Boss) in the manner and for the purpose herein indicated, results otherwise than in a very decided increase in the value of each of the catalogues as sources of absolute determination of star-declinations.

The preparation of the *Catalogue of 627 Principal Standard Stars* was only the foundation structure in a process that has since been continued and elaborated. It may be well to remark here, that the utmost circumspection was required during these successive enlargements of the Standard Catalogue that, in the positions of the stars successively added to it as secondary standards, the original system should be



preserved. In other words, the systematic correction of a catalogue of observation compared with the corrected catalogue of 627 standard stars should result the same as it does from comparison with the additional standard stars, within admissible limits of casual error.

### MAGNITUDE-EQUATION.

Another special point in relation to this standard catalogue, as well as to the catalogue in general, may appropriately be mentioned here, since it constitutes a departure from the practice that has heretofore prevailed. An attempt has been made to produce published right-ascensions that shall be free from the effect of magnitude-equation. The magnitude-equation is a well-established effect in consequence of which the observer at the telescope ordinarily registers the transit of a faint star later than he would that of a brighter star actually in the same place. The equations of the different observers are by no means the same, and there appear to be a very few whose magnitude-equations are very near zero. The general average of all equations appears to be not far from  $^s.007$  per magnitude on the historic scale (log. light ratio .36), or  $^s.008$  on the Pogson scale (log. ratio, .4). Furthermore it appears that the equation for observations by chronographic registry is not very different from that for observations by eye-and-ear. (*Ast. Jour.*, 536.) From this it would appear that determinations of proper-motion in right-ascension would not be very sensibly affected by the neglect of correction for this equation in the past and present; but that the right-ascensions of the fainter stars would generally come out too large relatively to those of the brighter stars, and in a different degree for different observers. For the purposes of a standard catalogue this is a matter of some importance, since stars of different magnitudes, in the case of many observers having equations different from the average, would give systematically different clock corrections.

Since the published discussion of this effect (*A. J.*, 536) the investigation of the magnitude-equations and the corresponding corrections required to eliminate this effect from the individual catalogues of observation has been continued here more critically and upon an enlarged scale. The essential outcome has been substantial confirmation of the earlier results, as will be seen by consulting the tables of  $\Delta\alpha_u$  in Appendix III.

The magnitude-equation of the *Catalogue of 627 Principal Standard Stars* was found to be  $-^s.0077\ M(-3.5)$ , where  $M$  represents the magnitude of a given star on the Pogson scale (*A. J.*, 536). This is equivalent to  $-^s.0069\ (M - 3.5)$  on the magnitude-scale of this *Preliminary General Catalogue*, the magnitudes for which, when brighter than  $6^m.6$ , are taken from a manuscript catalogue of normal magnitudes prepared by Dr. S. C. Chandler, based upon a combination of substantially all useful material contained in the various uranometries and photometric determinations, adjusted to the historic scale. Accordingly the right-ascensions of the *Catalogue of 627 Principal Standard Stars*, in addition to other revisions for many of the stars, were corrected by  $-^s.0069\ (M - 3.5)$  (where  $M$  was adopted from the present work) and were then transferred to this Catalogue. For all stars not included in that

list, the corrections  $\Delta a_u$  for magnitude-equation were applied to the individual catalogues of observations and treated like any other form of systematic correction. The resulting right-ascensions as printed in the Catalogue are supposed to be free from this effect.

The magnitude, 3.<sup>5</sup>, was chosen as the zero of reference, so that the mean equinox of the right-ascensions would not be sensibly disturbed.

Since the basis of these determinations was laid (*A. J.*, 536), it has been possible to apply several further independent tests of considerable value in estimating the freedom of this catalogue from errors dependent on magnitude of the star. Tucker's determination of his magnitude-equation for the right-ascensions of the Piazzistars affords one such test; Oertel's determination of right-ascensions with the Repsold micrometer at Munich (Mün 00) presents another; and Küstner's right-ascensions at Bonn (Bonn 00 in Manuscript) offer still another. Arranging the comparisons in the order of magnitude there was obtained for the respective catalogues, in the sense P.G.C.—Mün 00, etc.:

MUNICH 1900.			LICK 1900.			BONN 1900.		
M	No. of Stars.	Obsd. $\Delta a_u$	M	No. of Stars.	Obsd. $\Delta a_u$	M	No. of Stars.	Obsd. $\Delta a_u$
		S			S			S
0.5	6	+ .009	2.2	21	.000			
2.0	19	.000	3.3	101	.000	4.5	103	— .003
3.0	35	— .001	4.3	104	— .002	5.2	224	+ .003
4.0	73	— .001	5.1	191	— .002	6.0	260	+ .001
5.0	47	+ .001	6.1	311	+ .002	6.8	64	— .002
5.9	26	— .001	6.9	89	.000			

The observed quantities under  $\Delta a_u$  in all these series appear to be quite insignificant. More testimony of the same kind has been derived from the recent right-ascensions of Albany and the Cape, where the respective observers applied their respective magnitude-equations in the reductions.

Several courses are open to observers who may wish to use this standard catalogue in observation of right-ascension. (1) Observers can use a self-registering micrometer. (2) They can determine their own magnitude-equations during the progress of their observations and free their transits from the effect of the equation. (3) They can assume their equations to be  $-.0069 (M - 3.5)$ , the mean of all observers. In these cases the right-ascensions of the present Catalogue are ready for use as standards. If no attention is given to the magnitude-equation, instead of correcting the transits for mean equation, we can evidently correct the present Catalogue by  $+.0069 (M - 3.5)$  in order to make it systematically conform, in an approximate way, with standard catalogues heretofore in use that are uncorrected for magnitude-equation.

#### SELECTION AND IMPROVEMENT OF STANDARDS.

The Catalogue gives for each star, both in right-ascension and declination, the weighted mean epoch of observation from combinations of all catalogues; the probable error of the coördinate at this mean epoch; the probable error of the centennial motion; and, finally, as a matter of convenience and check, the probable error of



the coördinate when reduced to 1910. From inspection of this information one may determine what stars are best suited for use as standard stars, when both elements of qualification for standard stars are considered. The precision of the position at a given epoch is compounded of the precision at the principal, or mean, epoch with that of the proper-motion. If we construct a standard catalogue that is designed to remain in efficient use until 1920 (say), then its predicted probable errors during its period of use up to 1920 are of even greater interest at the later than for the earlier dates. The data given in the present Catalogue provide for the computation of a predicted probable error of position for any required epoch; and whenever the resulting probable error is not much over  $0''.3$ , this prediction as to precision should be relatively a fair approximation to the truth.

This information, however, may frequently be required in relation to stars which would not now be regarded as well enough determined to be employed as standard stars in zone or regional observations at fixed observatories, but which might be made into useful secondary standards through special differential observations based upon the principal standards, and contemporaneously with the zone-observations themselves. This method has been advantageously employed at the Dudley Observatory (1896-1901, *A. J.*, 499). The data of the present Catalogue would facilitate the selection of such standards in such a manner that the new secondaries might be chosen in view of their future as well as present usefulness. Not only is the selection of such stars herein facilitated, but the preparation of accurately predicted positions for them is made comparatively easy. The results contained in the present Catalogue are supposed to be exhaustive of existing determinations to the extent indicated in the foregoing list of catalogues employed. Additional weight of observations, not contained in that list, can easily be incorporated with the catalogue-data in such a manner (as will be explained hereafter) that the final results will virtually represent a complete solution of all the observational equations that were formed in the present work, together with those from the additional material. Thus the work here done, if considered satisfactory, need not be duplicated except in special cases.

As another illustration of the value which an approximate knowledge of the degree of precision reached may have, take the selection of stars for determination of latitude. In the Catalogue the probable errors in declination are given for 1910; and they can easily be computed for other dates. This is of very great advantage in facilitating choice of the best determined stars. Furthermore, considering the great precision of instrumental results in latitude-observation, the precision of the final result of a series of latitude-observations may depend more upon the precision of the star-places than upon that of the instrument. The present Catalogue furnishes fairly reliable estimates of probable error for each declination, enabling this element to be taken into account in latitude-reductions in order to reach the most probable result. At the same time the results of later observations of such latitude-stars can be easily and accurately incorporated in a revision of the determinations recorded in the present work, as will be shown later on. It should be specially noted that for stars of the class represented by the weaker one-third of the present Catalogue, the probable error of the predicted position increases much

more rapidly with the time than for the standard stars. For instance, there is a large number of stars whose right ascensions or declinations have the greatest weight somewhere between 1880 and 1890, or later, with probable error of centennial motion, 0".6, or more. The manner in which the probable error increases for this class of stars can best be illustrated by an example. For this purpose take No. 26 of the Catalogue, for which the probable error at the epoch 1888.3 is  $\pm 13$  and of the centennial proper-motion is  $\pm 1".06$ . The following table gives computed probable-errors and weights (unit of weight corresponds to p.e.,  $\pm 13$ ) for the respective epochs.

STAR NO. 26 IN DECLINATION.		
Year.	p.e.	Weight.
1888.3	$\pm 13$	5.3
1900	$\pm 18$	2.8
1910	$\pm 26$	1.3
1915	$\pm 31$	0.9
1920	$\pm 36$	0.7

Thus a weight of determination that was 5.3 in 1888 has fallen to one-fourth of this amount in 1910. That is below the weight of the mean of two observations in the more precise of modern catalogues of observation. This rapid diminution of weight seems worthy of mention here, because its existence often appears not to be specifically and properly appreciated even in works aiming at precision.

### RECAPITULATION.

Before entering into detail in reference to the proper understanding and use of the present Catalogue we may venture to recapitulate the statement of its principal characteristics as follows:

1. The primary object of the Catalogue is to give the proper-motions of the stars as they result from a precise discussion of all readily available observations in each case.
2. It aims, also, to furnish a Standard Catalogue that shall be practically exhaustive of the material of observation both in extent and in thoroughness of discussion, and which shall include all stars likely to be needed at present for standards in zone-observations and the like.
3. It gives the right-ascensions of the stars substantially free from the error arising from magnitude-equation.
4. It furnishes with each star the means for a complete estimate of the probable accuracy attained in respect to the catalogue position and motion of that star.
5. As has been intimated, and as will later be shown more specifically, the catalogue-data offer convenient means for incorporating with due weight, for purposes of revision, observations additional to those on which the catalogue results are based.



## THE COLUMNS OF THE CATALOGUE.

In order to facilitate a proper and intelligent use of the Catalogue let it now be considered systematically in detail.

*The first column* on each page gives the current number for reference. There are 6188 numbers in all.

## ADOPTED NAMES.

The *second* column on the left-hand pages contains the adopted names or designations of the respective stars. This Catalogue makes no claim to erudition, or authority, in this respect. At the outset it was decided that the time and labor required for a critical and consistent treatment of the constellations could not be afforded. Except for a few of the brighter stars, there appears to be no single authority or rule of procedure in this respect that is so generally accepted as practically to require obedience. The practice of meridian-observers, and of others who have occasion to make use of star-names, seems to make this clear. Therefore, in devising nomenclature for the stars of this Catalogue the author has felt himself absolved from any attempt to found a system capable of defense on historic grounds; but he has felt free to adopt that which seemed to him most convenient, fitting, and simple for his purpose. Yet certain *quasi*-general principles were kept in mind by the author in selecting precise designations for the individual stars.

It was decided, very naturally, where a star is brighter than 6<sup>m</sup>0 and has a virtually undisputed claim to a Greek letter, unmodified by accent or subscript, that this should be adopted. In case of some stars where this qualification could not be asserted the Greek letter has still been retained. Of faint stars, the names  $\lambda$  Ursæ Minoris and  $\circ$  Octantis are retained, since many meridian-observers must have become well accustomed to the designations. On the other hand, neither the name, " $\gamma$  Antliæ," sometimes employed for No. 2764 of this Catalogue, that is of 7<sup>m</sup>3 only, nor the name " $\zeta$  Piscis Australis" for No. 5802, a star of 6<sup>m</sup>8, seems to serve any useful purpose. If the adoption of a Greek letter is to be regarded as a distinguishing mark of brightness, such designations of Greek letters for faint stars tend to mislead and confuse, since the great majority of stars fainter than 5<sup>m</sup>0 and even such stars as L 3910, 2<sup>m</sup>8, and Br 3062, 3<sup>m</sup>8, are not designated by Greek letters.

The practice of assigning the same Greek letter to several stars of a constellation, relying on added accents or subscripts to distinguish the separate stars, does not seem very convenient and has been carried rather far in some instances. Thus the Greek letter  $\tau$  is attached to nine bright stars in Eridanus, the letter  $\psi$  ten times in Auriga; and there are many instances where the same letter is employed more than twice to designate stars in a given constellation. There already exists a tendency in such instances to discard the subscripts or accents and to reserve the use of the letter to the brighter star, especially if this is decidedly above the sixth magnitude. This tendency has been obeyed in the present work, where precedents

exist, and several changes have been here independently made. Thus we have  $\xi^1$  and  $\xi^2$  Ceti; in the present work  $\xi^1$  has been discarded and the exponent taken from  $\xi^2$ , even though the difference of magnitude is small. There are several other instances of the same kind. These subscripts or exponents have sometimes been retained in the cases where the two stars may be regarded as constituting a close naked-eye double, as Nos. 1045-1046,  $\theta^1$  and  $\theta^2$  Tauri (dist. 6').

As a rule the practice of employing the numbers of Flamsteed, Hevelius, Bode, or Gould with the name of the constellation as a designation has not been followed in working up the second column of the Catalogue. There are numerous cases where the Flamsteed numbers have been misapplied; there is no uniformity in assigning the exact boundaries of the constellations; and in the use of the letters B, H, and F we have a fruitful source of inconsistencies and errors, especially in view of the nearly universal practice of omitting the letter "F" to indicate that the number is Flamsteed's. The letters "B" for Bode and "H" for Hevelius have often been dropped. It was decided to get rid of the critical labor involved in unprofitable research upon these names by discarding them altogether. Yet, in a few instances, such familiar designations as 70 Ophiuchi, 61 Cygni, and 51 H Cephei, have been retained; and in the column of remarks the Flamsteed and Gould numbers with constellation names (mainly quoted from the catalogue of the British Association) are given as convenient synonyms. The use of the Roman alphabet with constellation names, except for naming variable stars, seems to be open to very serious objections. Such letters are sometimes given in the column of remarks, but are excluded from the second column. The similarity of such letters as  $\alpha$  and  $a$ ,  $\iota$  and  $i$ ,  $\kappa$  and  $x$ ,  $o$  and  $o$ ,  $v$  and  $v$ ,  $\omega$  and  $w$ , either in manuscript or print, has been the source of much confusion and of what should have been unnecessary labor.

Whatever have been the faults of naming the northern stars, the case is far worse for the southern sky. Here it has been decided to cut loose from all traditions and to follow the constellations and Greek letters as they were given by Gould in the *Uranometria Argentina*, with modifications as to the employment of letters with exponents similar to those adopted for northern stars. Roughly, this practice takes effect at about  $-23^\circ$  of declination, and near that parallel inconsistencies are necessarily introduced that are not, however, regarded as of any particular moment. In the column of remarks the Gould numbers and constellations have usually been given for the far southern stars.

The simplest mode of designation (and in many respects the most natural for a catalogue like this) is to give, in abbreviated form, the name of and number in some well-known star-catalogue in which the earliest observations of precision upon that star are found. Thus, "Br 3208" (Bradley), given as a designation for the first star in this Catalogue, is specific and probably more convenient as a means of identification than would be "33 Piscium," by which this star is often designated. Lacaille's zone-observations at the Cape of Good Hope constitute a nearly complete survey of the brighter stars of the southern sky. Comparatively few stars brighter than 7<sup>m</sup>.0 have been omitted. These numbers have been very extensively quoted in star-catalogues. Therefore, although the catalogue of Lacaille's observations is



very far from being a catalogue of precision, it does offer a convenient means for applying a designation for the great majority of southern stars. Piazzzi and Groombridge with numbers are also convenient designations. Failing all these which have been enumerated in the foregoing, the practice has been to employ the number in an early catalogue, avoiding those in which there are few stars. If the star occurs in no catalogue of precision earlier than about 1875, the number in Lalande's or Bessel's zones, and occasionally from other sources, has been employed. When, as in the case of Piazzzi and Lacaille, both numbers exist for the same star, the Piazzzi number is preferred for stars north of  $-30^\circ$  and the Lacaille number for those south of that parallel. It would be tedious, however, to enumerate all the details that have governed in the choice of names for stars not frequently observed.

To the name in the second column is sometimes appended a letter. When *m* is thus appended, it usually means a double star observed in the mass; but where the star is wide and the components distinct, or where the components are of nearly equal brightness, *m* more commonly indicates the mean. Usually, the notes give an indication as to what is probably meant. For a great proportion of close double stars, for which the difference of magnitude between the two components is less than  $3^m$  (say), it is rather difficult to determine to what point the observation refers.

For several binaries an attempt has been made to determine the relative masses of the components. In such cases the letters c. g. (center of gravity) are appended to the name in the second column; the catalogue-position is intended to be that of the center of gravity. Particulars relative to such stars are to be found in special notes contained in Appendix II.

### MAGNITUDE OF THE STARS.

The third column on each left-hand page contains the estimated magnitude of the star. For all stars indicated as of  $6^m.5$  or brighter (with trifling exceptions), the magnitudes are taken from a manuscript catalogue furnished by Dr. S. C. Chandler. When approached for advice in the matter of star-magnitudes, Dr. Chandler very generously offered to place at the disposition of the author the results derivable from his extensive manuscripts relating to the magnitudes of the brighter stars. This was followed with catalogues containing magnitudes of all stars in either hemisphere deemed by Dr. Chandler to be  $6^m.5$ , or brighter. These were based upon the collation of the results from all the principal uranometries and photometric results. Furthermore, the "historic" or "natural" scale (approximately that of the *Uranometria Nova* of Argelander) had been adopted for the normal; and the systematic corrections necessary to reduce the *Uranometria Argentina* and various photometries to a normal had also been ascertained. Through the photometric observations the normal scale had been fixed at the light ratio whose logarithm is  $0^m.36$ . One of the essential features of the historic scale is the magnitude  $6^m.0$ , which in the course of generations, and through the data collected in successive uranometries, had come to be quite a definite thing. In establishing the gradation above and below this datum (near Potsdam  $6^m.0$ ) Dr. Chandler appears to have aimed to keep

in touch with the scale of the *Uranometria Nova* and *Bonner Durchmusterung* with some reference to the historic 9<sup>M</sup>o, which through the estimates of Bessel, Argelander, and others had also come to have a fairly definite (though not absolutely rigorous) meaning to the great body of astronomers.

It is to be hoped that Dr. Chandler, at some future time, will give an exposition of the methods by which he has reached results of such great importance and value. Meanwhile, in view of the most liberal and generous authorization of Dr. Chandler, his normal system may best be defined here through some of his tables of systematic corrections. The logarithm of the ratio of brightness for one magnitude in Chandler's *Normal Uranometry* is stated by him to be .36, differing from Pogson's scale (log. ratio = .4) now in extensive use. As will appear, Chandler's system is nearly equivalent to the Potsdam system for "GW" (yellowish white) stars plus .08 (M - 6<sup>M</sup>o), where M indicates the normal magnitude of a given star. It will be noted that Dr. Chandler deduces decided systematic corrections on account of color.

ADOPTED CORRECTIONS TO POTSDAM PHOTOMETRY. (Argument is corrected or normal magnitude.)						ADOPTED CORRECTIONS TO HARVARD PHOTOMETRY. (Vols. XLIV and XLV and approximately so for others.)					
Normal.	W	GW	WG	G	RG	Normal.	W	GW	WG	G	RG
M	M	M	M	M	M	M	M	M	M	M	M
2.0	-.46	-.43	-.39	-.35	-.37	2.0	-.15	-.18	-.23	-.27	-.27
3.0	-.33	-.29	-.24	-.19	-.18	3.0	-.06	-.09	-.14	-.18	-.18
4.0	-.22	-.18	-.11	-.05	-.02	4.0	+.05	+.02	-.03	-.07	-.07
5.0	-.13	-.08	.00	+.07	+.12	5.0	+.17	+.14	+.09	+.05	+.05
6.0	-.07	-.02	+.08	+.16	+.23	6.0	+.31	+.28	+.23	+.19	+.19
7.0	-.03	+.02	+.13	+.23	+.32	7.0	+.42	+.39	+.34	+.31	+.30

The arguments for color, "W," "GW," etc., have the meanings attached to them in the Potsdam Photometry: white, yellowish white, whitish yellow, yellow, and reddish yellow, respectively.

For those of the Harvard series published in Volumes XIV, XXIV, XXXIV, and XLVI, Dr. Chandler deduces corrections periodic with right-ascension additional to the corrections for scale already given for Volumes XLIV and XLV.

#### SPECIAL CORRECTIONS APPLICABLE TO HARVARD PHOTOMETRY.

RA	Vol. XIV	XXIV	XXXIV	XLVI	RA	Vol. XIV	XXIV	XXXIV	XLVI
h	M	M	M	M	h	M	M	M	M
0	-.02	-.08	+.06	-.07	12	-.01	+.01	-.07	-.09
1	-.01	-.09	+.08	-.07	13	-.04	-.01	-.07	-.09
2	+.01	-.08	+.08	-.06	14	-.06	-.02	-.06	-.09
3	+.02	-.07	+.06	-.05	15	-.06	-.04	-.07	-.11
4	+.04	-.05	+.02	-.04	16	-.06	-.05	-.07	-.13
5	+.05	-.04	-.02	-.03	17	-.06	-.06	-.08	-.14
6	+.06	-.02	-.07	+.04	18	-.06	-.06	-.08	-.16
7	+.06	.00	-.09	-.06	19	-.06	-.04	-.07	-.14
8	+.06	+.02	-.10	-.09	20	-.05	-.04	-.06	-.12
9	+.05	+.02	-.09	-.11	21	-.05	-.04	-.05	-.11
10	+.04	+.03	-.09	-.12	22	-.04	-.05	-.03	-.09
11	+.02	+.02	-.08	-.11	23	-.03	-.07	+.01	-.08



The following are abridged Tables of Corrections for the *Uranometria Argentina*. The total correction to be applied to the magnitudes of U.A. is for "scale" + "locality in sky."

U.A. CORRECTION FOR SCALE.

NORMAL.	CORRECTION.	NORMAL.	CORRECTION.
M	M	M	M
2.0	-.17	4.5	-.08
2.5	-.07	5.0	-.20
3.0	-.02	5.5	-.18
3.5	+.01	6.0	-.09
4.0	.00	6.5	+.01
		7.0	+.08

U.A. CORRECTIONS FOR LOCALITY IN SKY.

RA δ	0 <sup>h</sup>	2 <sup>h</sup>	4 <sup>h</sup>	6 <sup>h</sup>	8 <sup>h</sup>	10 <sup>h</sup>	12 <sup>h</sup>	14 <sup>h</sup>	16 <sup>h</sup>	18 <sup>h</sup>	20 <sup>h</sup>	22 <sup>h</sup>
0°	M	M	M	M	M	M	M	M	M	M	M	M
-10	+.2	+.2	+.1	-.1	-.1	0	+.1	0	-.1	0	0	+.1
-20	+.2	+.3	+.1	-.1	-.1	0	+.1	0	-.1	0	0	+.2
-30	+.2	+.3	+.2	-.1	-.2	0	+.1	0	-.1	0	0	+.2
-40	+.2	+.3	+.2	-.1	-.3	0	0	-.1	-.1	-.1	0	+.2
-50	+.2	+.2	+.1	-.1	-.3	-.1	-.1	-.2	-.1	-.1	0	+.2
-60	+.2	+.2	0	-.1	-.2	-.2	-.2	-.2	-.2	-.1	0	+.2
-70	+.1	+.1	+.1	0	-.1	-.3	-.3	-.2	-.1	0	0	+.1
-80	0	+.1	+.1	+.1	-.1	-.2	-.2	-.2	-.1	0	0	0

As already stated, Chandler's manuscript catalogue furnishes the magnitudes to 6<sup>M</sup><sub>5</sub> inclusive. For the fainter stars as many as possible were computed at the Dudley Observatory with the aid of the foregoing tables of systematic correction. During this process the generally excellent agreement of the Harvard and Potsdam corrected results attracted marked attention. Down to the limit of the tables, 7<sup>M</sup><sub>0</sub>, the systematic corrections appear to produce very satisfactory agreement between the Harvard and Potsdam results. Below this limit the corrections were roughly extrapolated for Potsdam and were assumed to remain unchanged from 7<sup>M</sup><sub>0</sub> for Harvard. For a large part of the stars in this Catalogue noted as fainter than 7<sup>M</sup><sub>0</sub>, the magnitudes depend upon rather uncertain eye-estimates, such as those contained in the *Durchmusterungs* and in certain catalogues of meridian-observation for which estimates of magnitude are made with some care. These magnitudes are of course subject to errors very much exceeding those attributable to the magnitudes based upon Harvard and Potsdam photometries.

In the case of double stars the differences of magnitudes of the components were mostly adopted from the *Mensuræ Micrometricæ* of Struve or from the photometric measures of the Harvard Observatory (*H.C.O. Annals*, Vol. XI). However, this part of the work can lay no claim to critical exactness.

It may not be superfluous to note again that a magnitude-equation determined in strict conformity with the Pogson scale (log. light ratio, .4) should be multiplied by 0.9 in order to reduce it to the scale of this Catalogue.

The authority for noting variable stars has been Chandler's *Third Catalogue*, and usually the limits of variation have been adopted from that authority.

## RIGHT-ASCENSIONS AND DECLINATIONS.

*The fourth column* on the left-hand page contains the right-ascension for 1900 (reduced to that epoch with proper-motion, so that both equinox and epoch are 1900); and *the second column* on the right-hand page contains the corresponding declination. The most important general points relating to the computation of these quantities have been set forth in preceding paragraphs of this Introduction. The list of star-catalogues employed has been given, as well as a sketch of the means employed to secure the greatest possible immunity from the effects of systematic error. (See also *Ast. Jour.*, Vol. XXIII; also *Catalogue of 627 Principal Standard Stars*.) A few words about the methods employed in the computation of the individual positions and motions may be useful. For each star, from a preliminary estimate of position and annual variation for 1875, an ephemeris covering the required dates of observation for that star from 1755 down to the present was formed and carefully checked. In expanding these ephemerides the third term of precession was taken into account. For stars of greater declination than  $82^{\circ}$ , standard dates, at suitable intervals, were derived through use of the trigonometrical formulas, as given by Newcomb; and other intermediate dates were interpolated from these.

Then conditional equations were formed by means of the corrections to the ephemeris given by each star-catalogue containing a position of that star. These conditional equations involved unknowns for correction of the before-mentioned assumed positions and annual variations for 1875. The unit of the coefficient of proper-motion was taken as twenty-five years, in order to render the coefficients of the normal equations fairly homogeneous. In forming the absolute terms of the conditional equations, systematic corrections of the catalogues of observation were employed. In the early stages of the work these corrections sometimes differed slightly from those given in Appendix III, but the residual effect upon the positions and motions is negligible. The conditional equations were also carefully weighted in conformity with the tables of weights contained in Appendix III. The normal equations were solved in the usual manner, and the resulting corrections were applied to the quantities assumed as the basis for correction.

All the operations were duplicated, or adequately checked.

The catalogue positions in right-ascension for 1900 are supposed to be cleared from the effect of magnitude-equation, as already stated in this Introduction.

For several binary stars, where orbits of a fair degree of accuracy have been computed, and where meridian-observations exist in sufficient weight to make the attempt worth while, computations have been made to obtain an approximation to the relative masses of the two components. The respective radii of the two components in their orbits around the center of gravity lie on diametrically opposite sides of that common center; and the ratio of these respective radii to each other and to their sum remains constant in all parts of the orbit. Therefore, to obtain this ratio it is simply necessary to take advantage of the fact that the form of the orbit of the principal star around the center of gravity is the same as that of the



relative orbit. If the ratio of the major axis of the actual orbit of the principal star around the center of gravity to the major axis of the relative, or ordinary double-star, orbit be denoted by  $r$ , and if  $\Delta_0\alpha$  and  $\Delta_0\delta$  be the coördinates in right-ascension and declination respectively of the orbital motion of the fainter around the brighter component, then the coördinates of the motion of the principal star around the center of gravity will be  $-r\Delta_0\alpha$  and  $-r\Delta_0\delta$  respectively. Introducing these quantities also into the ordinary equations for determining the position and motion of the star,  $-\Delta_0\alpha$  and  $-\Delta_0\delta$  will be known coefficients to be computed from the adopted orbit of the binary, and  $r$  will be an unknown, to be determined from the equations of condition, along with the corrections to assumed position and motion of the center of gravity. If we take for the unit of mass that of the brighter star, then the mass of the fainter star will be  $\frac{r}{1-r}$ .

Knowing  $r$ , it now becomes possible to reduce the observations of each component to the center of gravity; and it is the position and motion of this c.g. that is given in the Catalogue. In Appendix II there are given for each of these stars the quantities necessary to be added to this position of the center of gravity for a given date in order to have the corresponding position of either of the components for that date. Following is a list of the binary systems thus treated. The ratio of masses is given in terms of the mass of the brighter star as the unit.

TABLE OF BINARY STARS WITH ADOPTED RATIO OF MASSES.

CATALOGUE NUMBERS.	NAME.	PERIOD, YEARS.	MAGNS.		RATIO OF MASSES.	
					Computed.	Adopted.
3	Bradley, 3210	Y 104.6	M 6.6	M 7.6		1.0
168	$\eta$ Cassiop.	233.3	3.6	7.9	. . .	.75
1732	$\alpha$ Can. Maj.	48.8	2.	8.0	.39	.39
2008	$\alpha$ Can. Min.	39.	0.2	9.0	.33	.33
2984	$\xi$ Urs. Maj.	60.	4.1	5.1	1.1	1.0
3307	$\gamma$ Virginis	194.	3.6	3.6	1.1	1.0
3735	$\alpha$ Centauri	81.2	0.	1.5	.85	.85
3798	$\xi$ Bootis	148.5	4.8	6.7	.87	.87
4138	$\sigma$ Cor. Bor.	370.	5.7	6.8	.47	.47
4246	$\zeta$ Herculis	34.5	2.8	6.5	.43	.43
4571	$\gamma$ Ophiuchi	88.4	4.3	5.8	.82	.82
6172	{ Bradley, 3198 } { (85 Pegasi) }	25.7	6.0	11.	1.8	1.0

The determination for No. 3 is wholly assumed from analogy, and for No. 6172 it is extremely uncertain. Those for 1732, 2008, and 3735 are quite precise, and those for Nos. 2984, 3307, 4246, and 4571 may be regarded as fairly satisfactory. There appears to be no case in which the fainter companion can be asserted with high probability to have a larger mass than that of the brighter component. In the case of No. 6172 the computation is scarcely warranted by weight of meridian-observations; and the result is very likely to have been seriously influenced by fortuitous grouping of errors.

Notwithstanding the care exercised in the computations for binary stars, the uncertainty of the result for predicted, or extrapolated, position and motion of each

of the individual components is materially greater than for single stars of the same class. Undoubtedly this is largely owing to the inevitable uncertainty of the orbital elements adopted in these computations (especially when micrometric observations have been extended over a part only of the orbital period); but in an important degree, also, uncertainty arises from decidedly individual systematic errors in meridian-observations of one component when the other component is distinctly visible. Accordingly, the particulars regarding probable error are omitted for these stars. At the same time it may be stated that the larger part of these stars, but for periodic variability of motion, would have belonged to the higher classes of standards.

Special computations were made for Groomb 1830 and 61 Cygni for the purpose of detecting a foreshortening or perspective effect in the annual motions of these stars. In both of these instances the computations seem to have been measurably successful in exhibiting such an effect, as will be seen from the detailed notes concerning these stars in Appendix II. In the case of the two components of 61 Cygni, the estimated effect of mutual curvature of the components is also included in the computation. These effects tend to modify the centennial variations of the proper-motions and annual variations; and these centennial variations thus modified are adopted in the catalogue-data for these stars.

As already explained under "Adopted Names," whenever the letter *m* is appended to the name in the second column, it means that the pointing of the observers has probably been made either upon the *mass* of light, or upon the *mean* when the components are either wide or of nearly equal magnitudes. Notes are given in some cases; in others there must exist more or less doubt. Usually, however, the uncertainty is not very serious, especially where the difference of magnitude is very large.

As a consequence of the discussion that relates to probable corrections required for the motion of the equinox and precession adopted in this Catalogue, described later under "Proper-motions," the right-ascensions require a correction of  $+^{\circ}.0079$  ( $\tau - 1850$ ), in consequence of the deduced correction of  $+^{\circ}.79$  to the centennial motion of Newcomb's equinox,  $N_1$ , to which the right-ascensions of this Catalogue correspond. This correction becomes  $+^{\circ}.026$  for 1900; and this is the common correction of all the right-ascensions of this Catalogue, if it is desired to make them correspond to the motion of the equinox so corrected. This probable correction receives some support from Newcomb's discussion of the correction required for  $N_1$ , so far as it is indicated by the Washington and Greenwich observations for several years around 1897. (*Ast. Jour.*, No. 498, Vol. XXI, p. 141.) The following corrections of the equinox,  $N_1$ , from observations of the sun are there derived:

From Washington	$+^{\circ}.053$	1897
From Greenwich	$+^{\circ}.005$	1896

The mean of these,  $+^{\circ}.029$ , is very near that otherwise found in the foregoing.

Finally, as will be seen later, it is of the utmost importance that the very great differences of accuracy in the catalogue-positions and motions of different stars be not overlooked; and especially that due attention be given to the relative degree of reliability with which desired predictions for individual stars can be effected.



## MEAN EPOCHS.

*The fifth column* on the left-hand pages and *the third* on the right-hand pages of the Catalogue contain respectively the mean epochs in right-ascension and declination. These are the means by weight (App. III) of the epochs of observation contained in the individual catalogues of observation relating to the star in question. The mean epoch has this useful property that, if we reduce the separately observed right-ascensions and declinations from their respective mean epochs to that given in this Catalogue, and combine the resulting positions by weights identical with those employed in forming the mean epoch in this Catalogue, the resulting coördinates will be independent of the proper-motion employed. For any date before or after this, the probable error of the computed position (employing the elements of this Catalogue) will be compounded of the probable error at the mean epoch and the probable error of the motion during the time elapsed. The statement of the mean epoch also serves to indicate, in connection with the probable errors, the general distribution of the observation available in the case of each star. Thus, if the probable error of the proper-motion is relatively large in comparison with the p.e. at epoch, then a very early mean epoch would indicate that the star has been neglected in recent times; and under the like conditions, if the mean epoch is relatively late, that the star was neglected in earlier times. If the mean epoch is so early as 1860, for instance, we have already in 1910, as a component of the probable error of position for that date, one-half of the probable error of centennial variation. For illustration, take No. 44 in declination. The mean epoch is 1860.0; the probable error of declination at mean epoch is  $\pm''.19$ ; the probable error of centennial proper-motion ( $100 \mu'$ ) is  $\pm''.64$ ; therefore that part of the probable error of declination for 1910, due to probable error of centennial proper-motion, is  $0.5 \times '.64 = \pm'.32$ . And this is very much more important than the probable error of declination,  $\pm.19$ , that attaches to the position at mean epoch 1860. The probable error of the declination for 1910 is evidently:  $\sqrt{(.19)^2 + (.32)^2} = \pm'.37$ ; so that the weight for the catalogue-declination reduced to 1910 is only about equal to that of a single good meridian-observation.

## ANNUAL AND SECULAR VARIATION AND THIRD TERM OF PRECESSION.

*The sixth, seventh, and eighth columns* on the left-hand page and the *fourth, fifth, and sixth columns* on the right-hand page contain the elements necessary for reducing the catalogue-positions from 1900 to any required epoch. Under "3d t." (third term) the element of geometrical precession that depends on the third power of the time is given. It is usually quite closely equal to  $\frac{1}{6} \frac{d^3 \alpha}{dt^3}$ , or  $\frac{1}{6} \frac{d^3 \delta}{dt^3}$ .

In a few cases the proper-motion has been taken into account in computing this term. If we denote the fraction of a century from 1900 by  $\tau$  (minus, reckoning back), then the effect of the third term upon the deduced position is:  $\tau^3 \times (3d t.)$ . In the *sixth column* is given the annual variation in right-ascension, and in the *fourth*, on the right-hand page, the annual variation in declination. Respectively

in the columns following these, and not separated by a rule, are found the secular variations of the annual variations. These are different from the geometrical secular variations of the precession, and again different from the variation of the precession as affected by proper-motion. For the sake of clearness, let us begin with the secular variation of the proper-motion,  $\Delta\mu$  (*tenth column*, left-hand page) and  $\Delta\mu'$  (*eighth column*, right-hand page). We have:

$$\begin{aligned}\Delta\mu &= [7.98762] \mu \cos \alpha \operatorname{tg} \delta + [6.81153] \mu' \sin \alpha \sec^2 \delta + [6.9866] \mu\mu' \operatorname{tg} \delta \\ \Delta\mu' &= [9.16371 n] \mu \sin \alpha + [8.7367 n] \mu^2 \sin \delta\end{aligned}\quad (A)$$

The numbers in brackets are logarithms, computed after Newcomb's constants of precession. To denote equations (A) when terms in  $(\mu\mu')$  and  $\mu^2$  are omitted, put  $\Delta'\mu$  and  $\Delta'\mu'$  respectively. Let  $p$  and  $p'$  denote the precessions. Then we shall have:

$$\left. \begin{aligned}\text{Geometrical sec. var.} &= \frac{\Delta p}{\Delta t} \\ \text{True sec. var. of precession} &= \frac{\Delta p}{\Delta t} + \Delta'\mu. \\ \text{Sec. var. of annual variation} &= \frac{\Delta p}{\Delta t} + \Delta'\mu + \Delta\mu.\end{aligned}\right\} \quad (B)$$

Accenting  $p$  and  $\mu$ , we have the equations for declination. Usually we shall have with sufficient accuracy for the secular variation of the annual variation  $\frac{\Delta p}{\Delta t} + 2 \Delta'\mu$ , since the omitted terms in  $\Delta'\mu$  and  $\Delta'\mu'$  are usually insensible. In the computations of annual variations for the Catalogue no assumption was made as to the precession; but in computing the secular variation such an assumption becomes necessary. Therefore Newcomb's constants were adopted and formulas (A) and (B) were employed. In the practical computation of  $\frac{\Delta p}{\Delta t}$  and  $\frac{\Delta p'}{\Delta t}$  manuscript tables were formed for declinations less than  $60^\circ$ , and the terms of (A) were conveniently tabulated in part.

For stars of numerically greater declination than  $82^\circ$  or  $83^\circ$ , use of the trigonometrical formulas was made to form standard epochs either twenty-five years or five years apart, according to need. From these dates interpolation was effected by means of the computed annual and secular variations, with third terms roughly derived from differencing the latter. For these stars in the Catalogue the third term is not given, and one decimal place is dropped in printing the annual and secular variations. At the same time, as a matter of convenience for those wishing to compare results of observation with this Catalogue, positions, motions, and secular variations have been computed for certain standard dates up to 1925, as given in Appendix I. For the purposes of interpolation, sufficiently accurate values of the third term can be derived from the differences of successive secular variations. The trigonometrical formulas and constants of Newcomb were employed. (See *The Precessional Constant*, pp. 73 to 76.)



For the convenience of the reader a table of constants is here given adapted for reducing a star-place given for 1900 to other dates preceding and following.

TABLES FOR TRIGONOMETRICAL COMPUTATION OF PRECESSIONS.  
NEWCOMB'S CONSTANTS.

1900 TO $T'$					
Date $T'$	$\zeta_0$	$\pi$	$\log \sin \theta$	$\log \operatorname{tg} \frac{\theta}{2}$	$\theta$
	"	"			"
1755	— 55' 40.58	— 55' 38.92	8.149089 <i>n</i>	7.848080 <i>n</i>	— 48' 27.55
1790	— 42 14.33	— 42 13.38	8.029096 <i>n</i>	7.728078 <i>n</i>	— 36 45.61
1800	— 38 23.96	— 38 23.17	7.987696 <i>n</i>	7.686676 <i>n</i>	— 33 25.06
1805	— 36 28.78	— 36 28.07	7.965259 <i>n</i>	7.664238 <i>n</i>	— 31 44.10
1810	— 34 33.59	— 34 32.97	7.941931 <i>n</i>	7.640910 <i>n</i>	— 30 4.52
1815	— 32 38.40	— 32 37.83	7.917106 <i>n</i>	7.616083 <i>n</i>	— 28 24.26
1820	— 30 43.21	— 30 42.71	7.890774 <i>n</i>	7.589750 <i>n</i>	— 26 44.00
1825	— 28 48.02	— 28 47.58	7.862741 <i>n</i>	7.561717 <i>n</i>	— 25 3.73
1830	— 26 52.83	— 26 52.45	7.832775 <i>n</i>	7.531750 <i>n</i>	— 23 23.47
1835	— 24 57.64	— 24 57.30	7.800587 <i>n</i>	7.499561 <i>n</i>	— 21 43.21
1840	— 23 2.44	— 23 2.16	7.765820 <i>n</i>	7.464794 <i>n</i>	— 20 2.95
1845	— 21 7.25	— 21 7.01	7.728028 <i>n</i>	7.427001 <i>n</i>	— 18 22.70
1850	— 19 12.05	— 19 11.85	7.686632 <i>n</i>	7.385605 <i>n</i>	— 16 42.44
1855	— 17 16.85	— 17 16.69	7.640870 <i>n</i>	7.339843 <i>n</i>	— 15 2.19
1860	— 15 21.65	— 15 21.52	7.589714 <i>n</i>	7.288685 <i>n</i>	— 13 21.94
1865	— 13 26.45	— 13 26.35	7.531718 <i>n</i>	7.230689 <i>n</i>	— 11 41.69
1870	— 11 31.25	— 11 31.18	7.464767 <i>n</i>	7.163738 <i>n</i>	— 10 1.44
1875	— 9 36.04	— 9 35.99	7.385581 <i>n</i>	7.084552 <i>n</i>	— 8 21.20
1880	— 7 40.84	— 7 40.81	7.288668 <i>n</i>	6.987638 <i>n</i>	— 6 40.95
1885	— 5 45.63	— 5 45.61	7.163726 <i>n</i>	6.862696 <i>n</i>	— 5 0.71
1890	— 3 50.42	— 3 50.41	6.987628 <i>n</i>	6.686598 <i>n</i>	— 3 20.47
1895	— 1 55.21	— 1 55.21	6.686595 <i>n</i>	6.385565 <i>n</i>	— 1 40.24
1900	0.00	0.00	— ∞	— ∞	0.00
1905	+ 1 55.21	+ 1 55.22	6.686586	6.385556	+ 1 40.23
1910	+ 3 50.43	+ 3 50.44	6.987606	6.686576	+ 3 20.46
1915	+ 5 45.64	+ 5 45.66	7.163697	6.862667	+ 5 0.69
1920	+ 7 40.86	+ 7 40.89	7.288632	6.987602	+ 7 40.92
1925	+ 9 36.08	+ 9 36.13	7.385535	7.084506	+ 9 21.14

#### FORMULAS OF APPLICATION.

Let  $\alpha'$  and  $\delta'$  be the right-ascension and declination whose values for the epoch,  $T'$ , are sought;  $\alpha$  and  $\delta$  the corresponding coördinates for 1900;  $\mu$  and  $\mu'$  the coördinates of proper-motion for 1900;  $\tau = T' - 1900$ , in years. Then

$$\alpha_0 = \alpha + \tau\mu \qquad \delta_0 = \delta + \tau\mu' \qquad A_0 = \alpha_0 + \zeta_0$$

$$p = \sin \theta \left( \tan \delta_0 + \tan \frac{\theta}{2} \cos A_0 \right)$$

$$\tan (A - A_0) = \frac{p \sin A_0}{1 - p \cos A_0} \qquad \alpha' = A + z$$

$$\tan \frac{\delta' - \delta_0}{2} = \frac{\cos \frac{A + A_0}{2}}{\cos \frac{A - A_0}{2}} \tan \frac{\theta}{2}$$

## PROPER-MOTIONS.

The *ninth* and *tenth* columns on the left-hand pages give the proper-motion,  $\mu$ , in right-ascension, and its centennial, or secular, variation,  $100 \Delta\mu$ , in units of the fourth decimal; correspondingly, the *seventh* and *eighth* columns on the right-hand page give the proper-motion,  $\mu'$ , in declination, and its secular variation,  $100 \Delta\mu'$ , in units of the third decimal place.

The proper-motions are derived by subtracting from the annual variations the precessions computed from Newcomb's constants for 1900. They are:

$$\begin{aligned}\text{Precession in R.A.} &= p = +3^{\circ}07'23.4 + 1^{\circ}33'64.6 \sin \alpha \tan \delta \\ \text{Precession in decl.} &= p' = +20''0468 \cos \alpha\end{aligned}$$

In the practical computation, Becker's tables (Vol. II, *Strassburg Observations*) or Downing's tables for 1910 were employed. It did not seem necessary to print the computed precessions; they can readily be recovered for any star by subtracting the proper-motion from the annual variation.  $100 \Delta\mu$  and  $100 \Delta\mu'$  were computed by means of formulas (A) under "Annual and Secular Variation, etc." in the foregoing.

As already stated in the earlier part of this introduction, the ascertainment of proper-motions of the stars constituted the chief motive for the labors that led to the production of this Catalogue. In pursuance of this object, the next step would naturally be to find out what corrections of the adopted precession and of the adopted motion of the equinox are most consistent with the results for annual variations in this Catalogue. A tentative investigation indicates that the proper-motions in right-ascension and declination as printed in this Catalogue require corrections of

$$+^{\circ}00021 - ^{\circ}00015 \sin \alpha \tan \delta \text{ for } \mu \quad \text{and} \quad -^{\circ}0023 \cos \alpha \text{ for } \mu'$$

This implies a correction of Newcomb's luni-solar precession for 1875 of  $+^{\circ}0058$  (annual); of his planetary precession (annual) at the same epoch, of  $+^{\circ}0006$ ; and a further correction to the right-ascensions of Newcomb's system,  $N_1$ , which is the basis of this Catalogue, of  $+^{\circ}0079 (T - 1850)$ ,  $T$  being expressed in years. The deduced correction for Newcomb's  $m$  is:  $+^{\circ}0058 \cos \omega - ^{\circ}0006 = +^{\circ}0047$ ; and of Newcomb's  $n$  is:  $+^{\circ}0058 \sin \omega = +^{\circ}0023$ , in which  $\omega$  is the obliquity of the ecliptic for 1875. In the normal equations derived from the discussion of solar-motion recently undertaken by the writer, an unknown quantity  $\Delta k$  was introduced to represent the constant effect upon all the proper-motions in right-ascension of required corrections:

$$\Delta_E \alpha - \Delta' m + \Delta \lambda = \Delta k = +^{\circ}37 \pm ^{\circ}08 \quad (\text{Centennial})$$

as derived from the equations. In other words, the mean of all the 5413 values of  $\mu \cos \delta$  came out  $-^{\circ}37$ , about 600 of the larger proper-motions having been symmetrically excluded.  $\Delta_E \alpha$  represents a correction to Newcomb's motion of the equinox,  $N_1$ ;  $\Delta' m$  represents that part of the correction to  $m$  that arises from correction of the luni-solar precession; and  $\Delta \lambda$  represents a correction to Newcomb's annual planetary precession. In these same equations an unknown  $\Delta n$  was introduced to represent the effect of an unknown correction to Newcomb's  $n$ .



The equation gave  $\Delta n = ".0034 \pm ".08$ . The corresponding  $\Delta'm$  is  $+.0078$ . The following adjustment-equations to determine centennial corrections were then formed with weights carefully studied from the probabilities of the case.

$$\begin{array}{rclcl}
 \text{WEIGHTS.} & & \text{OBS.} & \text{COMP.} & \\
 10 & \Delta'm - \Delta\lambda - \Delta_E a = & -.37 & -.32 = -\Delta k & \\
 1 & & \Delta_E a = +.30 & +.79 & \\
 8 & \Delta\lambda & = .00 & +.06 & \\
 2 & \Delta'm & = +.78 & +.53 & 
 \end{array} \quad (C)$$

The observed absolute terms of the first and last equations come from the solar-motion discussion already mentioned, in the manner indicated in the foregoing. It may be of interest to examine some of the details in determination of  $\Delta k$  and  $\Delta n$ .

From the final normal equations founded on the motions of 5413 stars, involving also the coördinates of solar motion, the values of  $\Delta k$  and  $\Delta m$  already cited were determined. Dividing the material into zones parallel with the equator, we have:

ZONE.	LIMITS.	$-\Delta k$	$+\Delta n$
I	$-\overset{\circ}{10}$ to $+\overset{\circ}{10}$	"	"
II	$+\overset{\circ}{10}$ to $+\overset{\circ}{30}$ $-\overset{\circ}{10}$ to $-\overset{\circ}{30}$	-.20	+.28
III	$+\overset{\circ}{30}$ to $+\overset{\circ}{50}$ $-\overset{\circ}{30}$ to $-\overset{\circ}{50}$	-.55	+.38
IV	$+\overset{\circ}{50}$ to $+\overset{\circ}{90}$ $-\overset{\circ}{50}$ to $-\overset{\circ}{90}$	-.10	+.44
All	$-\overset{\circ}{90}$ to $+\overset{\circ}{90}$	-.37	+.34

Arranging in zones parallel with the galaxy, we have:

ZONE.	LIMITS GALACTIC LAT.	$-\Delta k$	$+\Delta n$
V	$-\overset{\circ}{19}$ to $+\overset{\circ}{19}$	"	"
VI	$+\overset{\circ}{19}$ to $+\overset{\circ}{42}$ $-\overset{\circ}{19}$ to $-\overset{\circ}{42}$	-.34	+.14
VII	$+\overset{\circ}{42}$ to $+\overset{\circ}{90}$ $-\overset{\circ}{42}$ to $-\overset{\circ}{90}$	-.52	+.42

The determination of  $\Delta k$  in zone III, and especially in IV, has, of course, small weight. The persistence in sign and average amount of these quantities in the separate determinations seems rather marked and tends to inspire confidence in the mean. Moreover, the final normal equations, as derived from  $\mu$  and  $\mu'$ , separately, give for  $\Delta n$ :

$$\begin{array}{rclcl}
 \Delta n \text{ from right ascensions,} & +".38 & 17 & \text{WT.} & \pm ".16 \\
 \Delta n \text{ from declinations,} & +.33 & 53 & \text{P. E.} & \pm .09
 \end{array}$$

This excellent agreement between the results from right-ascension and declination tends still further to make it seem reasonable that the final result for  $\Delta n$  is not seriously affected by anomalous systematic motions of the stars.

The absolute term of the second equation of (C), which contains  $\Delta_E a$  alone (correction to assumed motion of the equinox), is taken from Newcomb. At page 88 of his summary, *Astronomical Constants*, Professor Newcomb gives  $+".30$  as the most probable common correction of the centennial motions of the stars in his former determination,  $N_1$ . Later, in another way, he arrives at an identical conclusion (*The Precessional Constant*, p. 71). The details making up these values are, of course, very discordant. The probable error must be fully  $\pm".30$ , and may be materially greater. In order to incorporate a correction for the planetary precession in the discussion, we add the equation,  $\Delta\lambda = ".00$ , which means that there has been no revision of Newcomb's value of  $\lambda$  published in *Astronomical Constants*. The careful determination of L. Struve (*Best. der Const. der Praec.*, 1887) would give, as the approximate correction of Newcomb's centennial  $\lambda$ ,  $+".21$ ; but the opportunity of selecting improved values of the masses of the planets at the time of Newcomb's computation seems to make it inadvisable to give weight to L. Struve's determination in combination with Newcomb's.

Solving the equations (C), first forming the normal equations, we have the values of the unknowns already cited (see also under "Comp," equations (C)), as those which best harmonize with all the facts. The large correction ( $+".79$ ) of Newcomb's motion of the equinox,  $N_1$ , would not generally have been anticipated, perhaps. But from the observations of Greenwich extending from 1835 to 1895, Newcomb found the "approximate value,"  $+".5$  (*The Precessional Constant*, p. 71); and at the same time he strongly urges the value of this correction which he had deduced from the right-ascension of Mercury,  $+1".0$ ; so that the above value,  $".79$ , may not be considered altogether unreasonable. The deduced value of  $\lambda$  lies between that of Newcomb and that of L. Struve, as if the weight 3 had been assigned to the former and weight 1 to the latter. The value of centennial luni-solar precession is  $+".58$  greater than that of Newcomb and  $".56$  less than that of Struve (Peters's) and  $".13$  less than that in Struve's original paper.

These quantities, derived from the discussion now in progress at the Dudley Observatory, are regarded, however, as provisional; and are primarily designed to be employed in the further progress of the discussion mentioned, as giving systematically more reliable values of the proper-motion than those contained in the Catalogue. At a later time, it is hoped that this discussion may be resumed with a far greater and systematically more accurate stock of proper-motions.

#### PROBABLE ERRORS.

*The three columns* (in one space) on the left-hand page under the caption "prob. errors," and *the corresponding columns* on the right-hand page, under the same heading, contain certain probable errors to which allusion has already been made.

The first of the three on the left-hand page under the special caption, *aEp*, gives in hundredths of a second of arc the probable error of the catalogue right-ascension reduced to the mean epoch of observation as printed in its appropriate column. The



second of these columns, under the caption, "100  $\mu$ ," gives the probable error of the centennial motion. The third column, under  $\alpha$  10, gives the computed probable error of the catalogue right-ascension at 1910. Corresponding quantities are given on the right-hand page for the declinations.

Seconds of arc are given in relation to right-ascension, so as to have the unit of p.e. the same as that for declination and also the same in right-ascension for all declinations. To convert these into time on the respective parallels, multiply by  $\frac{1}{15}$  sec  $\delta$ .

In possession of these quantities, it is possible to produce an estimate of the probable error of right-ascension or declination for any given epoch. In fact, the columns under  $\alpha$  10 and  $\delta$  10 are not needed for this purpose. They are given for the convenience of the reader because of their obvious usefulness at the present time. The date 1910 is therefore given in preference to 1900. As an example of the method of computing the probable error for any given date, let us suppose the probable error of the right-ascension of Br 3208, the first star of the Catalogue, to be required for 1900. If  $E$  be the mean epoch for a given star,  $T$  the required date, put  $\tau = \frac{T-E}{100}$ ; then if  $\epsilon_E$  be the probable error of the right-ascension at the mean epoch and  $\epsilon_\mu$  the probable error of centennial  $\mu$ , while  $\epsilon_T$  represents the probable error for the required date, we shall have:

$$\epsilon_T = \sqrt{\epsilon_E^2 + (\tau \epsilon_\mu)^2}$$

In the case of Br 3208, this becomes:

$$\pm ".094 = \epsilon_T = \sqrt{(".05)^2 + (.296 \times .27)^2}$$

If we choose  $\pm ".30$  as the p.e. of the unit of weight, as has been the case with all the computations for this Catalogue, we shall have as the weights of catalogue-right-ascension at the respective epochs:

$T$	WEIGHT.
1870.4	36.0
1900	10.1
1910	6.2

Thus it is seen that the weight of the predicted right-ascension is rapidly falling, until in 1910 it has only one-sixth the value it had in 1870. By 1920 this weight will have fallen still farther to 4.4. Thus we are able to obtain a very precise idea of the manner in which the precision of the determination for a given star is varying — information that is specially important in the case of a star used as standard in meridian-observations, or for any other purpose requiring high precision.

The applicability of these probable errors has been repeatedly tested in the course of computations for this Catalogue, and they are believed to be relatively accurate, and quite certainly not too small in the mean. In order to secure the general reliability of these probable errors in the case of each individual star, they are not

derived from the residuals for that star alone, but are computed from the weights resulting from the least-square solution, the probable error of the unit of weight having been verified from the residuals in the solutions of hundreds of stars. As with probable error in general, it may happen that abnormal residuals, or a favorable "run of luck," may cause the probable error computed from the residuals for a given star to be greater or less than the *mean* probable errors printed in this Catalogue; but it is believed that, in the long run, the latter are more reliable. It should be borne in mind, however, that probable error is not *probable uncertainty*. This latter may be as much as, or more than, four times the probable error. Computation shows that we ought to expect that 43 out of the 6188 stars of the Catalogue will ultimately prove to be affected by errors equal to four times the printed probable error of position, and similarly for the probable errors of motion. But these will be the extremely unlucky cases, and, after all, they will be only about one star in 140. Not quite one-fifth of all the stars should be found to have errors equal to twice their probable errors; and about one in twenty-three stars should turn out to have a real error three or more times the probable error assigned to it in this Catalogue.

Then there are the mistakes, as distinguished from mathematical probable error. These may be classified for convenience as follows:

(1) Mistakes in the star-positions as printed in the original catalogues of observation.

(2) Mistakes of computation in course of preparing the data for this General Catalogue.

(3) Mistakes occurring in the combination of data from these computations in order to form this Catalogue as printed.

Doubtless all the catalogues contain undetected errors that may be termed mistakes, some of which have been discovered in the course of this work. The presence of such errors, notably in catalogues like Pi 1900, Madr 35, Arm 40, Madr 75, and others, has been frequently indicated to us by abnormal residuals. When it appeared that these might be five times as large as the computed probable error of the catalogue-positions for the particular number of observations employed, the residuals were rejected; but, since satisfactory probability that a discordance was really to be attributed to a particular catalogue would often be wanting in the case of many of the weaker stars, it must have happened in numerous instances that the catalogue-places as actually employed in these computations are still injuriously affected by undetected, material errors of observing record or of computation. The effect of such undetected errors, and of other well-known practical considerations, must have been to make the probable errors assigned to the weaker stars relatively less accurate than for the stronger stars, from which abnormal errors are more completely, though not entirely, eliminated. In considering this first point, however, it should be noted that, in computing the weights of observed star-positions (App. III) some of the effect of mistakes in the individual catalogues is naturally included.

As to errors in the computation for this work, very great care has been exercised to reduce the number of these to the lowest possible limit. The greatest part of this work has been absolutely duplicated, and all of it has been carefully checked.



Probably the most fruitful source of mistakes will be found to have arisen in the process of assembling the data arising from the computations in order to form the Catalogue as printed. In preparation for the printer's copy of the Catalogue the needed material from various sets of computations had been assembled on cards arranged in the order of right-ascension. The solution of the normal equations for each star had given corrections applicable to the assumed positions and annual variations for 1875. Another process gave those to be applied to the assumed position and annual variation for 1900. The corrected positions and annual variations for both dates were copied on the catalogue-cards, together with other data relating to precession, proper-motion, etc. Then the corrected position for 1900 was rigorously reduced to that of 1875, with the elements provided for that purpose in this Catalogue. This served for the detection of several small errors in the original ephemerides, or in forming the corrected places. This process not only resulted in a satisfactory verification of the relative positions for 1875 and 1900, but at the same time it afforded a good check on the annual variations and a check against gross errors in the secular variation; but it was, of course, ineffective as to errors common to the data for both 1875 and 1900. Various tests and checks have been employed to guard against any very important error of this kind, like errors of  $1'$  or  $1''$ .

#### METHOD OF CORRECTING THE CATALOGUE-POSITIONS AND MOTIONS BY MEANS OF ADDITIONAL OBSERVATIONS.

The probable errors already described may be made to serve a useful function additional to that of affording a criterion of the precision attained. From these probable errors may be recovered normal equations which, though not the same, are sufficiently equivalent to those from which the catalogue-positions and motions resulted. As an example, take No. 1, Br 3208, or 33 Piscium, in right-ascension. We have:  $\epsilon_0 = \pm ".05$ , the probable error of right-ascension at the mean epoch, 1870.4;  $\epsilon_\mu = \pm ".27$ , the probable error of centennial  $\mu$ . If now we put for the probable error of the unit of weight,  $\pm ".30$ , and if we make a quarter of a century the unit of time from the mean date, we shall have as normal equations for correction of the Catalogue for 1870.4:

$$\left. \begin{aligned} 30.0 \Delta\alpha_0 + .0 \Delta\mu_0 &= .000 \\ 0 \Delta\alpha_0 + 19.8 \Delta\mu_0 &= .000 \end{aligned} \right\} \quad (D)$$

$\Delta\alpha_0$  is the required correction of the right-ascension for 1870.4, the catalogue mean epoch, and its coefficient is the weight corresponding to  $\epsilon_0$ .  $\Delta\mu_0$  is the required correction of the catalogue-value of  $25\mu$ , and its coefficient is the weight corresponding to  $\frac{\epsilon_\mu}{4}$ .

Now suppose that a determination of the right-ascension of this star is to be made in 1909.9, and that the weight of that determination is to be 6.0. Suppose this determination corrects the catalogue right-ascension by  $+.030$ . Then we shall have as a conditional equation from this determination:

$$\Delta\alpha_0 + \frac{1909.9 - 1870.4}{25} \Delta\mu_0 = +.030, \text{ or } \Delta\alpha_0 + 1.58 \Delta\mu_0 = +.030$$

Proceeding in the usual manner, we shall have to add to the first of equations (D),

$$6.0 \Delta a_0 + 9.48 \Delta \mu_0 = +^s180$$

and to the second of equations (D),

$$9.48 \Delta a_0 + 14.98 \Delta \mu_0 = +^s284$$

The new normal equations become:

$$36.0 \Delta a_0 + 9.5 \Delta \mu_0 = +^s180$$

$$9.5 \Delta a_0 + 34.8 \Delta \mu_0 = +^s284$$

The solution of these gives

$$\Delta a_0 = +^s003 \text{ (for 1870.4)}$$

$$\Delta \mu_0 = +^s0072$$

$$\Delta \mu = +^s0003$$

The new mean epoch is 1877.0. For 1900 we should then have  $\Delta a = +^s012$ , and consequently:

$$1900 \left\{ \begin{array}{l} \text{Right-ascension} = 0^h 0^m 13^s.013 \\ \text{Annual variation} = \quad + 3^s.0712 \\ \text{Proper-motion} = \quad -^s0010 \end{array} \right.$$

The probable error at the epoch, 1877, is  $\pm ".05$  (weight 36), and the probable error of centennial motion is  $\pm ".21$  (weight  $\frac{32.3}{16} = 2.02$ ). The probable error for 1910 is now  $\pm ".085$  instead of  $\pm ".12$  given in the Catalogue; consequently the weight for that date is nearly doubled.

Owing to the rounding of the probable errors on the second decimal place, the weights for position at mean epoch and for centennial proper-motion may differ somewhat from the actual results from the solution-normals from which the catalogue-results were derived. But this difference will be larger for the best-determined stars, and there it will be of no material consequence. In the present case the normals actually derived from the computations for the Catalogue are:

$$32.2 \Delta a_0 + 0.0 \Delta \mu_0 = ^s000$$

$$0.0 \Delta a_0 + 20.2 \Delta \mu_0 = ^s000$$

If these be substituted for equations (D), the subsequent solution will not materially differ from the one already reached through (D).

The process outlined in the foregoing is applicable to the introduction of any number of determinations additional to those employed in the construction of the Catalogue; and these may have dates previous to the mean epoch, as well as after it. Other methods to fit special requirements will suggest themselves to the experienced computer.

## THE NOTES TO THE CATALOGUE.

An attempt has been made to present special information in relation to stars of the Catalogue upon the pages where these stars are found, either in the column of "Remarks," or at the foot of the page. In order to do this it was necessary to take somewhat drastic measures by reducing the notes to their lowest terms. For the convenience of readers it seemed desirable that the column of "Remarks" should be primarily devoted to giving the constellation and the Flamsteed, or Gould, number of bright stars referred to in the second column by a catalogue-number. Thus for star No. 1 many readers might prefer the designation 33 Piscium, and this has been accordingly inserted in the column of remarks. Since we have in common use the letters H, B, and G for the numbers of Hevelius, Bode, and Gould, respectively, consistency would seem to require F for Flamsteed; but long-continued custom may now be considered to have sanctioned the omission of that letter. It has rarely been thought necessary to introduce the Bode-number in the pages of this Catalogue; and only a very sparing use has been made of the numbers of Hevelius, which, however, may be found to be convenient in connection with some stars near the north pole. Furthermore, in this column, both Greek letters with exponents and Roman letters have been retained to some extent as facilitating identification; though the further use of either should, perhaps, be discouraged. The employment of the Roman small letters is, however, especially to be deprecated as leading to endless confusion both in printed catalogues and in observatory-records.

In general the notation of Baily in the Catalogue of the British Association has been preferred, in spite of some errors there introduced. This has been done with the idea that the name of a star that has been commonly in use might be more useful for identification than that which it historically ought to be. The "B.A.C." has served extensively as a manual of reference in that respect. Usage has been so diverse, however, as to absolve any one who may depart from a consistent course in the adoption of star-names. The computing astronomer ought to be released from the exacting and time-consuming demands that would be entailed by a thorough examination of rights of priority in reference to the names of stars.

The entire department of physical notes has been practically abandoned in the preparation of this Catalogue. Careful notes in regard to color and spectrum would have had a distinct use; but these would have swollen an already crowded page; and they belong more appropriately to special works, such as have been already published, or are in course of preparation elsewhere. One apparent exception to this rule has been admitted: the limits of variation for variable stars have been stated on the authority of Chandler's *Third Catalogue*. But these may be considered simply to supply a deficiency in the columns assigned to magnitude.

An estimate of the annual parallax has been quoted in several instances where reliable determinations exist.

Most of the notes refer to double or binary stars. So far as these appear on the catalogue-pages, they are very concise. They are sometimes found in the column of remarks — more commonly at the foot of the page. Normally they give the designation of the star (as  $\Sigma$  2, or  $\beta$  391); the magnitude of the companion,



or the magnitude of both stars when the mean is given in the Catalogue; next the estimated distance in 1900; and the estimated position angle at that date.

The general catalogues of Innes, Lewis, and Burnham have furnished the information herein adopted. Many of the statements of numerical data are followed with the remark, "binary," "slow binary," "rapid binary," etc.; but in all cases where exact information is required one will, of course, recur to original sources or to the general catalogues mentioned. In the column of Remarks, "See Appendix" refers to notes in Appendix II, to which were transferred all comments upon individual stars too lengthy for insertion on the pages of the Catalogue. These notes, few in number, refer chiefly to peculiarities of motion.

### APPENDIX I.

Immediately following the Catalogue is a list of stars within eight degrees from the pole for which computed places are given for dates subsequent to 1900. From these and for ordinary requirements the reader has the means for deriving with ease the predicted place for any date subsequent to 1900 and up to 1925 without a trigonometrical reduction. The places predicted in Appendix I were derived by trigonometrical computation with Newcomb's constants. They were checked by mechanical integration, which operates also as a very fair check upon the accuracy of the computed values of annual and secular variations. These ephemerides lay no claim to more than substantial accuracy.

The table given previously in the chapter on "Annual Variation, etc.," at p. xxvii of this Introduction, was employed in the construction of the ephemerides, and it may be found convenient for purposes of verification.

For Polaris and  $\delta$  Ursæ Minoris an ephemeris for five-year intervals throughout the nineteenth century is also included.

In interpolating, it will usually be necessary to take into account the third term  $\left(\frac{1}{6} \frac{d^3 \alpha}{dt^3}\right)$ . This may be derived with sufficient approximation from the differences of secular variation. Designating by  $v_1$  and  $v_2$  two successive values of the secular variation separated by the interval  $\tau$ , we obviously have for the third term in right-ascension (and correspondingly for declination):

$$(\text{Centennial}) \quad \frac{1}{6} \frac{\Delta^3 \alpha}{\Delta t^3} = \left( \frac{v_2 - v_1}{\tau} \right) \left( \frac{10000}{6} \right)$$

When  $\tau = 5$  or 25 years respectively, we have:

$$\text{For 5 years' interval, } \frac{1}{6} \frac{\Delta^3 \alpha}{\Delta t^3} = (v_2 - v_1) \left( \frac{1000}{3} \right)$$

$$\text{For 25 years' interval, } \frac{1}{6} \frac{\Delta^3 \alpha}{\Delta t^3} = (v_2 - v_1) \left( \frac{1000}{15} \right)$$

In general, the numerator of the coefficient is 1000 and the denominator is  $0.6 \tau$ .

As an illustration, let it be required to compute the right-ascension of No. 185 (= Br 74) for 1910. We have sec. var. for 1900,  $+^s60.19$ , and for 1925,  $+^s63.78$ . Hence the third term is:  $(+^s63.78 - ^s60.19) \left( \frac{1000}{15} \right) = +2^s.39$  for 1912.5, about.

With this, working forward from 1900, or backward from 1925, we arrive very closely at the same right-ascension for 1910, viz.  $0^h 46^m 23^s.02$ ; whereas if the third term had been neglected, there would have been a discrepancy of about  $^s.01$ . In order to verify the original reduction from 1900 to 1925, compute the effect of the third term for 25 years. This is  $+2^s.39 (\pm \frac{1}{64}) = \pm ^s.037$ . Including this with the effect of annual and secular variation, working either forward or backward, we find as the reduction from 1900 to 1925,  $+2^m 14^s.47$ , exactly that which was found by the trigonometrical computation.

## APPENDIX II.

Appendix II contains the longer notes pertaining to individual stars in the Catalogue. These refer chiefly to stars having peculiarities of proper-motion, such as periodic proper-motion of each of the components of a binary star. Also for two stars, Groomb 1830 and 61 Cygni, the effect of perspective in apparent acceleration, or retardation, of the annual angular motion is discussed and these effects have been incorporated in the Catalogue. Further details will be found in the notes for those stars.

As to the stars in relation to which there has been an attempt to trace the path of each component around the common center of gravity — the position of which is given in the Catalogue — the peculiarities of each case are presented in the notes. In general it may be said that only in the case of Procyon was there an attempt to use the meridian-observations for determining the form of the real orbit. The meridian-observations are not at all suited for this purpose, not only because of lack of sufficient accuracy, but still more because of the very great difficulty in finding from them the projected focus — the place of the center of gravity. At the same time the peri-astron, as well as the orbit generally, was adjusted to bring the meridian-observations into comparative harmony with the indications of the micrometrical observations. In all other cases the computation was confined to the problem of ascertaining the dimensions of the orbit of the principal star, assuming the elements of that orbit, except semi-axis major, to be directly derivable from the elements of the orbit described by the fainter around the brighter component. The general method employed in computing the orbital motion of each component of a binary star around the center of gravity has been outlined in a previous chapter of this Introduction, entitled, "Right-ascensions and Declinations," pp. XXII–XXIV of this Introduction, where also a catalogue of the special determinations is given.

## APPENDIX III.

In Appendix III are given the latest revised systematic corrections and weights of individual star-catalogues adopted in the formation of this General Catalogue. The method of deducing these corrections is briefly described in the foregoing Introduction, and is given more in detail in various numbers of Volume XXIII of the *Astronomical Journal* — papers subsequently collected under the title: *Catalogue of 627 Principal Standard Stars*.





# THE CATALOGUE

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m	s						$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1	Br 3208	4.8	0	0	13.001	70.4	s	s	s	s	0	"	"	"
2	Br 3209	5.9	0	33.875		70.3	+3.0709-	.0014	+ .010	-.0013	0	.05	.27	.12
3	Br 3210 <i>m</i>	6.2	1	1.673		71.0	+3.0755+	.0087	+ .011	+.0024	0	.10	.44	.20
4	L 9721	6.0	1	8.365		90.8	+3.1148+	.0508	+ .046	+.0329+	5			
5	Br 3211	5.6	1	14.495		70.0	+3.1190-	.0343	+ .030	+.0545-	6	.16	1.54	.34
6	Br 3212	6.4	1	25.251		69.8	+3.0882+	.0628	+ .068	+.0012	0	.10	.33	.16
7	Br 3213	6.6	2	25.251		69.8	+3.1056+	.0185	+ .014	+.0288+	2	.07	.32	.14
8	L 9735	5.9	2	36.719		81.9	+3.0733+	.0004	+ .010	+.0018	0	.07	.39	.13
9	Br 3214	6.6	3	58.625		82.4	+3.0574-	.0180	+ .017	-.0032	0	.11	.66	.21
10	$\alpha$ Andromedæ	2.0	3	4.850		74.0	+3.0717+	.0005	+ .010	+.0003	0	.11	.40	.18
11	Br 3217 <i>m</i>	6.4	3	13.032		65.9	+3.0931+	.0185	+ .014	+.0106	0	.02	.11	.06
12	$\beta$ Cassiopeia	2.2	3	48.486		64.3	+3.2246+	.1733	+ .434	+.0363+	18	.10	.44	.22
13	Br 3218	5.8	3	50.304		72.2	+3.1766+	.0542	+ .049	+.0676+	10.	.03	.14	.06
14	L 9740	6.7	3	52.843		69.7	+3.0887+	.0117	+ .011	+.0092	0	.12	.52	.24
15	Pi 285 <i>m</i>	5.6	3	59.529		84.4	+3.0386-	.0389	+ .038	-.0010	0	.18	.80	.27
16	$\epsilon$ Phoenicis	3.9	4	15.234		83.8	+3.0641-	.0141	+ .014	+.0053	0	.14	.68	.22
17	Pi 286	7.4	4	20.244		81.8	+3.0571-	.0288	+ .026	+.0112-	1	.10	.48	.16
18	Br 3219	5.7	4	47.848		69.4	+3.0714+	.0005	+ .010	+.0006	0	.11	.58	.26
19	Br 3220	5.2	4	53.797		66.2	+3.0800+	.0077	+ .010	+.0023	0	.12	.39	.21
20	Pi 1	6.2	5	7.217		83.4	+3.1031+	.0331	+ .025	+.0004	0	.05	.32	.10
21	L 9756	5.5	5	11.672		76.1	+3.0712-	.0009	+ .010	+.0019	0	.10	.54	.21
22	Br 3222	5.1	5	30.33		73.2	+2.8062-	.1926	+ .766	-.0127-	10	.06	.45	.18
23	Pi 6	5.7	6	10.483		67.9	+3.0562-	.0062	+ .011	-.0058	0	.10	.33	.17
24	$\theta$ Sculptoris	5.3	6	29.824		85.9	+3.0532-	.0137	+ .014	+.0013	0	.08	.68	.18
25	Paris 134	5.6	6	39.042		81.6	+3.0574-	.0190	+ .017	+.0129-	1	.10	.62	.20
26	L 2	7.0	7	4.068		94.0	+3.0610-	.0076	+ .012	+.0024	0	.14	.93	.20
27	$\gamma$ Pegasi	2.9	7	59.118		88.7	+3.0541-	.0102	+ .013	+.0015	0	.13	1.08	.26
28	L 6	7.6	8	5.127		67.6	+3.0846+	.0102	+ .011	.0000	0	.02	.12	.06
29	Br 2	5.9	8	11.387		91.0	+3.0332-	.0207	+ .019	-.0013	0	.12	.75	.19
30	Paris 169	5.5	8	19.058		76.3	+3.1027+	.0283	+ .020	-.0110-	1	.09	.40	.17
31	$\chi$ Pegasi	5.0	9	20.827		94.5	+3.0684-	.0020	+ .010	+.0040	0	.13	.93	.20
32	L 23	5.9	9	25.627		65.7	+3.0986+	.0132	+ .012	+.0066	0	.11	.46	.24
33	Br 4	4.7	9	31.59		83.5	+2.351-	.200		-.007+	12	.10	1.00	.28
34	Cape 24	5.9	9	33.687		75.5	+3.0509-	.0080	+ .012	-.0017	0	.10	.56	.22
35	Br 5	6.1	9	48.245		92.8	+3.0636-	.0029	+ .010	+.0015	0	.11	.81	.18
36	L 18	6.5	9	49.756		61.6	+3.0873+	.0068	+ .010	+.0066	0	.09	.39	.21
37	Br 6 <i>m</i>	6.5	9	55.409		84.2	+3.0377-	.0183	+ .017	+.0066	0	.15	1.04	.32
38	L 22	5.8	10	33.218		80.3	+3.3334+	.1465	+ .292	+.0068+	3	.04	.34	.11
39	Br 7	6.3	11	5.452		86.1	+3.0423-	.0158	+ .015	+.0104-	1	.13	.72	.22
40	Pi 26	7.6	11	25.693		67.9	+3.0790+	.0066	+ .010	-.0023	0	.11	.39	.20
41	Pi 25	6.0	11	31.779		72.8	+3.0734+	.0032	+ .010	-.0005	0	.13	.51	.23
42	Br 8	7.8	11	34.617		74.8	+3.1939+	.0605	+ .060	.0000	0	.11	.48	.20
43	$\theta$ Andromedæ	4.5	11	36.048		64.6	+3.0896+	.0097	+ .010	+.0012	0	.15	.58	.30
44	Groomb 33	6.0	11	51.933		76.4	+3.1225+	.0267	+ .019	-.0041	0	.08	.27	.12
45	Br 10	6.8	11	52.425		65.7	+3.1504+	.0365	+ .027	+.0028	0	.21	.80	.41
46	Groomb 35	6.2	12	15.401		67.9	+3.0885+	.0070	+ .010	+.0057	0	.10	.33	.17
47	$\circ$ Octantis	7.5	12	24.819		72.2	+3.1601+	.0413	+ .032	-.0012	0	.15	.57	.26
48	Br 11	7.5	12	29.84		74.2	-0.768.	+2.376.		+.019-	-95	.05	.30	.12
49	Pi 33	6.5	12	38.519		68.8	+3.1081+	.0112	+ .010	+.0149	0	.11	.38	.19
50	$\sigma$ Andromedæ	4.6	12	39.480		77.4	+3.0787+	.0032	+ .010	+.0049	0	.07	.42	.15
			0	13	6.062	79.2	+3.1227+	.0251	+ .018	-.0056	0	.08	.39	.15

11  $\Sigma$  2.  $\gamma^M_0 - \gamma^M_3$  binary,  $< 1''$ , 150 yrs.  $\pm$ .  
 35  $\Sigma$  12.  $\gamma^M_8$  11" 149°.

15  $\beta$  391.  $6^M_4 - 6^M_5$ ; 1" 272°.  
 37  $\Sigma$  13.  $\gamma^M_0 - \gamma^M_5$  0"8 83°. Slow binary.

18  $\Sigma$  5.  $10^M_8$  8" 160°.  
 45  $\Sigma$  22.  $8^M_0$  4" 237°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta \mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10	Remarks.
	° ' "		" "	"	" "	" "	
1	- 6 16 1.19	69.3	+20.137-.009	-.17	+.090 0	.05 .20 .09	33 Piscium
2	+12 50 22.83	70.4	+20.049-.010	-.17	+.002 0	.09 .37 .17	86 Pegasi
3	+57 52 44.89	68.1	+20.085-.011	-.17	+.038 0		See Appendix
4	-49 37 51.76	88.6	+20.004-.011	-.17	-.043 0	.13 1.15 .28	37 G Phœnicis
5	+63 38 22.21	68.2	+20.052-.011	-.17	+.005 0	.08 .32 .16	10 Cassiopeiæ
6	+28 28 10.99	67.6	+19.870-.011	-.17	-.176 0	.06 .27 .13	
7	- 3 6 19.72	75.4	+20.050-.014	-.17	+.004 0	.07 .34 .14	4 Ceti
8	-34 5 10.10	81.5	+20.054-.014	-.17	+.009 0	.10 .63 .21	50 G Sculptoris
9	- 3 0 15.66	72.0	+20.040-.015	-.17	-.005 0	.09 .35 .16	5 Ceti
10	+28 32 17.86	64.3	+19.884-.015	-.17	-.161 0	.02 .11 .06	
11	+79 9 32.32	63.5	+20.015-.016	-.19	-.029 0	.10 .36 .19	*
12	+58 35 53.45	69.0	+19.863-.017	-.17	-.181 0	.03 .14 .07	
13	+17 39 21.37	68.6	+20.011-.016	-.17	-.033 0	.11 .46 .22	87 Pegasi
14	-54 33 32.93	80.6	+20.058-.016	-.17	+.014 0	.14 .60 .22	38 G Phœnicis
15	-28 32 39.96	78.6	+20.042-.017	-.17	-.001 0	.13 .63 .24	51 G Sculptoris $\kappa^1$ *
16	-46 17 57.13	81.9	+19.857-.017	-.17	-.186 0	.08 .43 .14	
17	- 3 7 2.86	69.6	+20.032-.018	-.17	-.010 0	.09 .50 .22	
18	+10 35 20.85	66.1	+20.041-.018	-.17	-.001 0	.10 .34 .18	34 Piscium *
19	+45 30 56.72	75.1	+20.041-.019	-.18	-.001 0	.06 .26 .11	22 Andromedæ
20	- 5 48 15.42	76.8	+20.022-.019	-.17	-.020 0	.09 .47 .18	
21	-82 46 48.24	72.2	+20.029-.018	-.13	-.012 0	.06 .36 .15	1 G Octantis $\gamma^3$
22	-16 1 1.37	73.6	+19.773-.021	-.17	-.267 0	.09 .32 .14	6 Ceti $f$
23	-28 21 24.42	84.4	+20.056-.021	-.17	+.017 0	.08 .48 .15	52 G Sculptoris $\kappa^2$
24	-35 41 34.80	79.5	+20.158-.022	-.17	+.120 0	.10 .60 .21	
25	-18 29 37.95	89.0	+20.017-.022	-.17	-.020 0	.14 .73 .21	
26	-23 1 37.37	88.3	+20.051-.024	-.17	+.016 0	.13 1.06 .26	
27	+14 37 39.16	65.8	+20.021-.024	-.17	-.013 0	.02 .11 .05	Algenib.
28	-38 22 44.73	81.8	+20.025-.024	-.16	-.009 0	.12 .51 .19	54 G Sculptoris
29	+40 28 59.46	69.1	+19.884-.025	-.17	-.150 0	.08 .32 .16	23 Andromedæ
30	- 8 20 12.88	92.4	+20.040-.027	-.17	+.010 0	.12 .83 .19	$\beta$ 486. 10 <sup>m</sup> 3" 5°
31	+19 39 1.31	63.4	+20.019-.027	-.17	-.011 0	.10 .42 .22	
32	-85 33 1.98	85.2	+20.089-.023		+.059 0	.09 1.07 .28	2 G Octantis
33	-19 29 12.96	77.7	+19.966-.027	-.17	-.063 0	.09 .38 .15	7 Ceti
34	-10 7 31.61	88.7	+20.031-.028	-.17	+.003 0	.10 .61 .16	
35	+ 8 15 56.13	54.6	+20.004-.028	-.17	-.024 0	.08 .36 .22	35 Piscium *
36	-35 27 36.33	77.2	+19.999-.028	-.16	-.029 0	.14 .73 .28	57 G Sculptoris
37	+76 23 42.24	77.6	+20.025-.031	-.21	-.001 0	.05 .31 .11	*
38	-32 0 5.89	83.6	+19.997-.030	-.16	-.026 0	.12 .59 .20	58 G Sculptoris
39	+ 7 41 5.36	66.6	+20.013-.031	-.17	-.009 0	.11 .35 .19	36 Piscium
40	+ 1 17 39.83	65.7	+20.042-.031	-.17	+.020 0	.11 .40 .21	
41	+60 58 39.13	69.5	+20.019-.032	-.18	-.002 0	.10 .38 .18	
42	+13 21 39.38	65.3	+20.015-.031	-.17	-.006 0	.12 .59 .29	37 Piscium
43	+38 7 34.89	69.8	+20.000-.032	-.18	-.020 0	.08 .27 .13	
44	+47 23 30.32	60.0	+20.008-.032	-.18	-.012 0	.19 .64 .37	
45	+ 8 19 7.50	63.3	+20.103-.033	-.17	+.085 0	.08 .27 .15	38 Piscium *
46	+50 52 39.19	64.0	+20.016-.033	-.18	-.001 0	.14 .49 .26	
47	-88 55 8.38	76.2	+20.022-.002		+.005 0	.05 .27 .10	Brisb 32
48	+15 46 34.00	66.4	+19.989-.034	-.17	-.027 0	.09 .35 .18	39 Piscium
49	+ 1 7 57.75	74.2	+20.025-.033	-.17	+.009 0	.06 .39 .15	
50	+36 13 50.83	76.8	+19.970-.035	-.18	-.044 0	.07 .34 .13	



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		M	h m s		s s	s	s	"	"	"
51	Pi 38	6.0	13 24.850	76.1	+3.1259+.0211	+.015	+.0067 0	.14	.82	.31
52	Br 13	6.1	13 25.762	64.6	+3.1485+.0320	+.023	+.0026 0	.11	.42	.22
53	$\epsilon$ Ceti	3.7	14 19.984	76.9	+3.0573-.0022	+.010	-.0012 0	.03	.20	.07
54	Br 15	7.0	14 46.130	64.9	+3.0954+.0112	+.010	-.0011 0	.11	.45	.23
55	$\zeta$ Tucanæ	4.4	14 51.685	82.7	+3.1549-.0661	+.070	+.2723-62	.09	.46	.15
56	Br 16	5.7	15 27.070	61.3	+3.0840+.0068	+.010	-.0004 0	.07	.36	.19
57	$\rho$ Andromedæ	5.3	15 51.112	69.3	+3.1484+.0266	+.018	+.0054 0	.10	.48	.22
58	$\pi$ Tucanæ	5.6	16 0.903	80.4	+2.8110-.0657	+.102	-.0024+ 1	.15	.81	.28
59	$\epsilon$ Sculptoris	5.5	16 29.790	81.8	+3.0212-.0135	+.014	+.0033 0	.07	.48	.15
60	T Ceti	Var.	16 42.616	96.0	+3.0410-.0082	+.011	+.0053 0	.15	1.04	.21
61	L 64	6.0	17 12.562	83.6	+2.6003-.0938	+.228	-.0011 0	.16	.80	.27
62	Br 19	6.6	17 14.972	58.4	+3.0993+.0098	+.010	+.0039 0	.14	.51	.30
63	Br 20	6.7	17 44.341	75.4	+3.0756-.0039	+.010	+.0267- 1	.07	.30	.12
64	Pi 56	7.0	17 59.838	74.4	+3.0421-.0057	+.010	+.0008 0	.15	.75	.31
65	L 65	7.0	18 12.352	84.6	+3.0082-.0146	+.015	+.0011 0	.13	.80	.24
66	Groomb 57	7.0	18 46.012	64.3	+3.1768+.0333	+.024	.0000 0	.16	.62	.33
67	Groomb 58	5.6	18 52.249	72.4	+3.2121+.0436	+.034	+.0017 0	.12	.63	.27
68	Br 21	5.6	19 16.317	70.2	+3.2791+.0645	+.063	+.0019 0	.08	.33	.15
69	Pi 60	6.5	19 23.044	71.1	+3.0639+.0015	+.010	-.0030 0	.10	.46	.21
70	Br 22	6.9	19 27.494	73.5	+3.1011+.0104	+.010	+.0010 0	.11	.44	.19
71	Br 23	5.9	19 41.690	67.7	+3.2253+.0455	+.036	+.0035 0	.12	.54	.26
72	L 75	7.1	19 47.798	92.2	+2.9841-.0324	+.031	+.0572- 7	.15	.96	.23
73	Br 25	6.0	20 16.551	77.7	+3.0739+.0037	+.009	-.0013 0	.05	.27	.10
74	$\beta$ Hydri	2.8	20 30.015	71.5	+3.2208-.1480	+.360	+.7015-321	.04	.24	.10
75	Br 26	7.0	20 32.538	65.2	+3.0901+.0068	+.010	+.0028 0	.08	.40	.20
76	Br 24	6.9	20 42.082	70.4	+3.7308+.2319	+.600	+.0081+ 4	.09	.39	.18
77	$\kappa$ Phœnicis	4.0	21 17.165	82.3	+2.9613-.0237	+.022	+.0096- 1	.12	.70	.23
78	$\alpha$ Phœnicis	2.3	21 20.551	75.8	+2.9746-.0228	+.021	+.0175- 2	.10	.39	.16
79	Br 29	6.7	21 29.662	72.2	+3.0758+.0028	+.009	+.0048 0	.07	.32	.14
80	Br 31	6.8	22 46.161	62.7	+3.1172+.0137	+.011	-.0007 0	.18	.58	.33
81	Br 32	5.4	22 50.072	56.5	+3.1219+.0127	+.010	+.0081 0	.13	.44	.27
82	Pi 74	5.3	22 51.130	65.9	+3.2093+.0342	+.024	+.0092+ 1	.12	.57	.28
83	$\eta$ Sculptoris	5.0	22 58.223	83.6	+2.9814-.0154	+.015	-.0022 0	.10	.64	.20
84	Br 33	6.5	23 0.896	59.1	+3.1110+.0118	+.010	+.0006 0	.13	.51	.29
85	L 99	5.5	23 30.686	85.4	+2.9655-.0203	+.019	+.0099- 1	.12	.62	.20
86	Br 34	6.7	24 29.403	75.6	+3.7600+.1815	+.347	+.0954+38	.08	.51	.19
87	Pulk <sub>ss</sub> 33	6.0	24 45.001	86.1	+3.3204+.0615	+.056	+.0042 0	.12	.84	.23
88	Br 36	7.8	24 47.363	67.0	+3.0784+.0024	+.009	+.0103 0	.13	.48	.24
89	Br 35	5.3	24 50.638	70.6	+3.1562+.0207	+.014	+.0030 0	.10	.39	.18
90	Br 38	6.3	24 56.112	76.4	+3.0614+.0009	+.010	+.0005 0	.03	.20	.07
91	Pi 91	5.4	25 22.703	81.6	+3.0029-.0095	+.012	-.0026 0	.08	.50	.16
92	L 109	6.6	25 34.753	90.4	+2.9400-.0206	+.020	-.0006 0	.12	.75	.19
93	Br 39	7.2	25 35.359	61.8	+3.1109+.0117	+.010	-.0027 0	.13	.52	.28
94	L 110	5.8	25 35.787	81.6	+2.9140-.0270	+.026	+.0116- 2	.16	.90	.30
95	Br 37	6.3	25 39.917	72.6	+3.4123+.0844	+.095	+.0050+ 1	.09	.44	.18
96	Groomb 75	5.9	26 12.507	93.9	+3.2643+.0464	+.036	-.0053- 1	.13	.57	.16
97	$\lambda$ Cassiopeiæ m	4.9	26 15.137	70.4	+3.2875+.0497	+.040	+.0052+ 1	.08	.30	.14
98	Br 41	7.3	26 23.995	64.9	+3.1138+.0118	+.010	-.0010 0	.15	.57	.30
99	$\lambda$ Phœnicis	5.0	26 35.587	83.3	+2.9051-.0274	+.026	+.0130- 2	.14	.64	.22
100	$\beta$ Tucanæ	4.6	26 57.745	75.8	+2.7707-.0443	+.055	+.0131- 3	.11	.50	.20

52 O $\Sigma$  5. 10<sup>M</sup> 6'' 241°.  
67 Hussey 506. 8<sup>M</sup> 5 0'' 2 217°.

62  $\Sigma$  27. 11<sup>M</sup> 29'' 333°.  
90 h 322. 11<sup>M</sup> 9'' 187°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
51	+30 57 42.84	72.1	+20.009-.035	-.18	-.003 0	.13	.64	.28	26 Andromedæ *
52	+43 14 8.70	61.2	+20.008-.035	-.18	-.004 0	.09	.37	.20	
53	-9 22 42.03	77.1	+19.976-.036	-.16	-.032 0	.04	.19	.07	
54	+15 41 45.35	64.0	+20.000-.038	-.17	-.005 0	.10	.40	.21	40 Piscium
55	-65 27 44.79	82.1	+21.171-.038	-.14	+1.166 0	.08	.41	.14	Parallax ".14
56	+7 38 5.46	57.4	+20.015-.039	-.17	+ .014 0	.06	.27	.15	41 Piscium <i>d</i>
57	+37 24 52.60	68.4	+19.955-.040	-.18	-.044 0	.08	.37	.17	
58	-70 10 48.43	81.0	+19.987-.037	-.13	-.011 0	.13	.69	.24	
59	-29 32 4.18	81.1	+19.926-.040	-.16	-.069 0	.08	.52	.17	
60	-20 36 45.36	96.2	+20.013-.041	-.16	+ .019 0	.17	1.22	.24	5 <sup>M</sup> <sub>2</sub> to 6 <sup>M</sup> <sub>3</sub>
61	-77 58 53.47	86.3	+19.989-.037	-.10	-.001 0	.15	.81	.24	4 G Hydrī
62	+12 55 37.52	53.0	+20.016-.042	-.17	+ .026 0	.10	.40	.25	42 Piscium *
63	-12 45 57.10	68.6	+20.056-.043	-.16	+ .069 0	.07	.29	.14	9 Ceti
64	-16 29 53.11	74.6	+20.024-.043	-.16	+ .039 0	.13	.58	.24	
65	-31 35 26.29	79.8	+19.970-.043	-.16	-.014 0	.12	.65	.23	65 G Sculptoris
66	+43 42 37.17	57.8	+19.965-.046	-.19	-.015 0	.11	.45	.26	
67	+51 27 56.39	74.6	+19.974-.047	-.19	-.005 0	.09	.49	.20	*
68	+61 16 37.11	60.9	+19.984-.049	-.20	+ .008 0	.07	.28	.15	12 Cassiopeiæ
69	-2 46 20.18	74.5	+19.938-.046	-.16	-.037 0	.09	.42	.18	
70	+13 45 40.19	71.2	+19.965-.047	-.17	-.010 0	.09	.35	.17	43 Piscium
71	+52 29 33.73	64.7	+19.970-.049	-.19	-.003 0	.11	.45	.23	
72	-51 35 28.00	87.3	+19.712-.046	-.14	-.260 0	.12	.61	.18	45 G Phœnicis
73	+1 23 9.15	74.0	+19.952-.048	-.17	-.016 0	.05	.24	.10	44 Piscium
74	-77 49 2.56	72.0	+20.290-.048	-.19	+ .323+2	.04	.25	.10	Parallax ".13
75	+7 8 17.42	62.5	+19.912-.049	-.17	-.054 0	.07	.38	.19	45 Piscium
76	+79 29 54.48	68.7	+19.970-.058	-.29	+ .005 0	.08	.32	.15	
77	-44 14 4.97	79.0	+19.990-.049	-.15	+ .030 0	.10	.51	.19	
78	-42 50 56.77	71.1	+19.559-.049	-.15	-.401 0	.08	.31	.14	
79	-0 36 12.42	69.3	+19.961-.051	-.17	+ .002 0	.06	.29	.13	10 Ceti
80	+18 57 40.08	58.9	+19.934-.054	-.17	-.014 0	.13	.46	.27	46 Piscium
81	+17 20 20.60	55.4	+19.963-.054	-.17	+ .016 0	.12	.42	.26	47 Piscium
82	+43 50 28.82	59.1	+19.929-.055	-.19	-.018 0	.12	.46	.26	
83	-33 33 33.63	80.1	+19.898-.052	-.15	-.048 0	.12	.65	.23	
84	+15 53 31.30	56.7	+19.930-.054	-.17	-.016 0	.13	.50	.30	48 Piscium
85	-40 28 2.18	81.1	+19.908-.053	-.15	-.033 0	.12	.58	.21	49 G Phœnicis
86	+76 28 3.85	77.3	+19.916-.068	-.27	-.016-2	.07	.49	.18	
87	+59 25 29.17	88.2	+19.896-.061	-.21	-.034 0	.11	.71	.19	$\beta$ 1094. 9 <sup>M</sup> <sub>5</sub> 0 <sup>M</sup> <sub>8</sub> 246°
88	-1 40 6.17	65.8	+19.865-.057	-.17	-.065 0	.10	.38	.20	11 Ceti
89	+29 12 1.02	70.7	+19.876-.058	-.18	-.053 0	.08	.35	.16	28 Andromedæ
90	-4 30 35.61	75.8	+19.921-.057	-.16	-.007 0	.03	.21	.08	12 Ceti *
91	-24 20 27.27	84.7	+19.940-.057	-.16	+ .016 0	.08	.51	.15	49 G Ceti
92	-41 29 34.45	88.8	+19.936-.056	-.15	+ .014 0	.10	.65	.17	51 G Phœnicis
93	+15 29 5.92	53.4	+19.915-.059	-.17	-.007 0	.10	.37	.23	49 Piscium *
94	-48 45 55.86	83.6	+19.804-.056	-.14	-.118 0	.14	.99	.30	53 G Phœnicis
95	+65 58 2.01	65.9	+19.917-.064	-.23	-.004 0	.09	.29	.16	13 Cassiopeiæ
96	+52 17 14.85	89.6	+19.888-.062	-.19	-.028 0	.13	.45	.16	
97	+53 58 12.51	67.3	+19.904-.063	-.20	-.012 0	.08	.26	.13	*
98	+15 28 10.53	61.2	+19.867-.061	-.17	-.047 0	.13	.53	.29	
99	-49 21 23.98	81.0	+19.926-.058	-.13	+ .014 0	.11	.51	.18	$\lambda^1$
100	-63 30 32.80	75.4	+19.854-.056	-.12	-.054 0	.09	.43	.18	See $\beta^2$ , 25" 171°

93  $\Sigma$  32. 11<sup>M</sup> 18" 105°.97 O $\Sigma$  12. 5<sup>M</sup><sub>6</sub>-5<sup>M</sup><sub>9</sub> 0<sup>M</sup><sub>6</sub> 152°; slow binary.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
101	$\beta^2$ Tucanæ <i>m</i>	4.6	0	26	58.405	76.2	+2.7706-.0444	+0.055	+0.0132- 3	.12	.51	.21
102	Br 44	5.8		27	14.154	69.5	+3.0919+.0068	+0.010	+0.0018 0	.10	.34	.17
103	$\kappa$ Cassiopeiaë	4.2		27	18.732	67.6	+3.3776+.0712	+0.070	+0.0016 0	.04	.18	.09
104	Br 45	5.5		27	20.813	64.9	+3.1385+.0144	+0.011	+0.0091 0	.11	.42	.22
105	Br 42	6.6		27	21.133	62.2	+3.5296+.1114	+0.153	+0.0096+ 2	.13	.54	.29
106	Pi 103	6.7		27	32.501	72.3	+3.1576+.0198	+0.013	+0.0010 0	.15	.72	.31
107	L 123	5.3		28	10.471	72.2	+2.7545-.0438	+0.055	+0.0120- 2	.14	.54	.25
108	Br 46	6.7		28	35.144	72.7	+3.4534+.0871	+0.098	+0.0042+ 1	.08	.33	.14
109	L 125	5.7		28	44.307	81.6	+2.9731-.0126	+0.014	-0.0023 0	.10	.60	.20
110	L 127	7.4		28	49.781	79.8	+2.9481-.0161	+0.016	-0.0045 0	.10	.57	.20
111	$\theta$ Tucanæ	6.4		29	8.832	82.9	+2.5700-.0570	+0.096	+0.0138- 4	.16	.75	.26
112	Pi 113 <i>m</i>	7.4		29	23.423	66.6	+3.0626+.0009	+0.010	+0.0055 0	.12	.51	.25
113	L 133	7.2		29	28.418	89.8	+2.9206-.0213	+0.021	+0.0080- 1	.12	.70	.18
114	L 137	5.7		29	42.382	83.7	+2.8675-.0303	+0.030	+0.0238- 3	.13	.75	.24
115	Pi 114	7.5		29	54.963	68.8	+3.3152+.0500	+0.039	+0.0065+ 1	.12	.58	.27
116	Br 50 <i>m</i>	5.4		30	6.026	74.4	+3.0869+.0014	+0.010	+0.0272 0	.05	.24	.10
117	Br 51	6.1		30	24.761	76.5	+3.0777+.0030	+0.009	+0.0086 0	.07	.30	.12
118	Br 49	5.3		30	34.157	63.5	+3.3158+.0500	+0.039	+0.0022 0	.10	.44	.23
119	Groomb 99	5.9		30	46.103	77.8	+3.3794+.0644	+0.058	.0000 0	.12	.52	.21
120	L 143	5.7		30	55.030	79.4	+2.8730-.0254	+0.025	+0.0042- 1	.16	.80	.29
121	Pi 124	5.5		31	20.198	67.3	+3.2457+.0353	+0.024	-0.0021 0	.13	.54	.27
122	$\zeta$ Cassiopeiaë	3.8		31	23.790	76.4	+3.3199+.0497	+0.038	+0.0023 0	.04	.20	.08
123	$\pi$ Andromedæ	4.4		31	32.273	78.8	+3.1939+.0244	+0.016	+0.0017 0	.04	.24	.09
124	Br 54	6.0		31	34.635	65.9	+3.1203+.0116	+0.010	-0.0001 0	.10	.46	.23
125	Pi 128	5.7		31	59.799	70.2	+3.2016+.0259	+0.016	-0.0002 0	.15	.84	.37
126	Br 48	6.7		32	12.456	72.4	+4.3422+.3853	+1.306	-0.0523- 32	.06	.32	.13
127	Pi 130 <i>m</i>	5.9		32	12.524	83.8	+3.0860-.0104	+0.012	+0.0222- 5	.06	.32	.10
128	Pi 131	6.7		32	21.530	74.0	+3.0877+.0050	+0.009	+0.0069 0	.09	.51	.20
129	Br 55	7.2		32	57.721	78.8	+3.0652+.0032	+0.009	-0.0036 0	.06	.33	.12
130	$\epsilon$ Andromedæ	4.5		33	16.159	72.8	+3.1612+.0208	+0.014	-0.0173- 1	.04	.24	.10
131	Groomb 113	5.8		33	38.137	83.4	+3.2970+.0423	+0.030	+0.0014 0	.12	.48	.17
132	$\delta$ Andromedæ	3.4		33	58.727	75.4	+3.1985+.0224	+0.014	+0.0107 0	.05	.26	.10
133	Br 58	6.1		34	9.556	64.7	+3.1144+.0151	+0.011	-0.0330- 2	.10	.34	.19
134	Br 60	5.6		34	39.632	57.2	+3.1511+.0156	+0.011	+0.0019 0	.14	.46	.28
135	$\alpha$ Cassiopeiaë	Var.		34	49.746	65.9	+3.3783+.0561	+0.045	+0.0061+ 1	.03	.12	.06
136	L 166	6.2		35	5.975	84.6	+2.8691-.0220	+0.022	+0.0031 0	.12	.87	.25
137	Pi 146	6.3		35	36.884	73.1	+3.0532+.0014	+0.009	-0.0014 0	.10	.40	.18
138	Br 61	5.5		35	41.829	60.4	+3.2392+.0302	+0.019	-0.0005 0	.12	.44	.25
139	L 172	6.0		35	44.412	81.2	+2.8282-.0387	+0.041	+0.1156- 18	.16	.78	.28
140	Pi 148	6.3		36	17.658	80.6	+3.1742+.0179	+0.012	+0.0077 0	.10	.68	.22
141	$\xi$ Cassiopeiaë	5.0		36	29.062	73.3	+3.3266+.0447	+0.032	+0.0021 0	.09	.32	.14
142	$\mu$ Phœnicis	4.7		36	36.066	80.6	+2.8446-.0226	+0.023	-0.0027 0	.12	.72	.24
143	$\xi$ Phœnicis	6.0		37	12.900	82.6	+2.7491-.0319	+0.035	+0.0101- 1	.16	.75	.26
144	L 183	6.3		37	54.292	80.9	+2.8942-.0170	+0.017	+0.0001 0	.13	.64	.23
145	$\pi$ Cassiopeiaë	5.2		37	55.857	64.8	+3.3017+.0395	+0.027	-0.0025 0	.10	.40	.21
146	$\rho$ Tucanæ	5.6		38	12.022	85.8	+2.5817-.0408	+0.056	+0.0078- 1	.13	.69	.21
147	$\beta$ Ceti	2.0		38	34.225	68.9	+3.0133-.0054	+0.011	+0.0160 0	.03	.15	.07
148	$\eta$ Phœnicis	4.6		38	51.667	81.6	+2.7104-.0318	+0.036	-0.0009 0	.13	.63	.22
149	Br 68	5.8		38	52.855	83.9	+3.3146+.0409	+0.028	-0.0024 0	.13	.45	.18
150	Br 66	5.7	0	39	2.276	80.8	+3.8807+.1649	+0.279	-0.0053- 2	.04	.24	.08

101 Innes 260.  $5^{\text{M}}0-6^{\text{M}}0$   $0''7$   $300^{\circ}$ .110 h 3375.  $9^{\text{M}}2$   $6''$   $165^{\circ}$ .102  $\Sigma$  36.  $9^{\text{M}}5$   $28''$   $83^{\circ}$ .112  $\Sigma$  39.  $8^{\text{M}}0-8^{\text{M}}5$   $0''7$   $245^{\circ}$ ;  $9^{\text{M}}20''$   $45^{\circ}$ .



## CATALOGUE OF 6188 STARS FOR 1900

7

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
101	-63 30 59.95	76.6	+19.846-.056	-.12	-.062 0	.10	.44	.18	See $\beta^1$ *
102	+ 6 24 11.52	59.8	+19.918-.062	-.17	+.012 0	.09	.30	.18	51 Piscium *
103	+62 22 47.67	69.1	+19.906-.067	-.21	+.001 0	.04	.17	.08	
104	+19 44 36.47	70.7	+19.852-.063	-.17	-.052 0	.09	.36	.17	52 Piscium
105	+70 25 47.89	65.8	+19.907-.070	-.24	+.003 0	.12	.51	.26	
106	+27 43 40.87	65.0	+19.908-.064	-.18	+.006 0	.10	.46	.23	O $\Sigma$ 14. 11 <sup>m</sup> 9" 160°
107	-63 34 56.01	74.6	+19.857-.058	-.12	-.039 0	.12	.51	.22	54 G Tucanæ
108	+66 11 55.88	71.4	+19.894-.071	-.24	+.003 0	.06	.28	.13	16 Cassiopeiae
109	-30 6 33.47	84.1	+19.861-.063	-.15	-.028 0	.10	.58	.18	77 G Sculptoris
110	-35 32 22.34	75.1	+19.367-.062	-.15	-.521 0	.11	.63	.25	78 G Sculptoris *
111	-71 49 3.21	82.9	+19.873-.056	-.09	-.012 0	.13	.65	.22	
112	- 5 5 53.46	66.2	+19.885-.066	-.16	+.003 0	.10	.39	.20	*
113	-42 58 59.98	88.9	+19.904-.063	-.14	+.023 0	.10	.63	.17	56 G Phœnicis
114	-52 55 32.39	82.2	+19.904-.063	-.13	+.025 0	.10	.60	.20	58 G Phœnicis
115	+53 39 8.50	65.7	+19.890-.071	-.20	+.014 0	.14	.55	.28	
116	- 4 8 36.13	73.0	+19.856-.068	-.16	-.018 0	.05	.23	.10	13 Ceti *
117	- 1 3 18.24	71.1	+19.810-.068	-.16	-.061 0	.07	.30	.14	14 Ceti
118	+53 37 3.51	60.6	+19.877-.073	-.20	+.007 0	.10	.40	.22	
119	+59 46 31.55	71.8	+19.865-.074	-.22	-.001 0	.10	.45	.20	
120	-48 32 57.45	79.3	+19.747-.065	-.13	-.118 0	.12	.75	.26	59 G Phœnicis $\lambda^2$
121	+43 56 12.81	60.2	+19.886-.073	-.19	+.026 0	.12	.45	.25	
122	+53 20 47.57	72.7	+19.850-.074	-.20	-.009 0	.04	.18	.08	
123	+33 10 7.61	74.9	+19.848-.072	-.19	-.009 0	.05	.24	.10	W.H. 8 <sup>m</sup> 5 36" 173°
124	+14 40 52.52	62.2	+19.829-.071	-.17	-.028 0	.10	.38	.21	53 Piscium
125	+34 50 57.86	59.8	+19.871-.073	-.19	+.019 0	.12	.46	.26	
126	+81 56 29.93	71.9	+19.940-.096	-.47	+.091 + 1	.06	.24	.11	
127	-25 19 3.14	88.4	+19.840-.073	-.15	-.009 - 2	.06	.38	.10	*
128	+ 2 35 11.36	75.3	+19.784-.071	-.17	-.063 0	.09	.52	.20	
129	- 1 3 12.52	72.1	+19.834-.072	-.16	-.006 0	.06	.26	.12	15 Ceti
130	+28 46 7.60	74.5	+19.588-.075	-.18	-.248 0	.04	.28	.11	
131	+48 48 17.63	80.7	+19.818-.079	-.20	-.013 0	.11	.42	.16	O $\Sigma$ 16. 11 <sup>m</sup> 14" 23°
132	+30 18 49.54	73.4	+19.741-.077	-.19	-.086 0	.04	.22	.09	
133	+20 42 39.60	59.9	+19.450-.075	-.18	-.375 + 1	.09	.31	.18	54 Piscium
134	+20 53 22.91	54.2	+19.780-.078	-.18	-.038 0	.11	.40	.25	55 Piscium *
135	+55 59 20.15	63.4	+19.785-.083	-.22	-.031 0	.02	.11	.06	2 <sup>m</sup> 2 to 2 <sup>m</sup> 8
136	-45 20 47.15	81.7	+19.788-.074	-.14	-.024 0	.10	.63	.20	63 G Phœnicis
137	- 4 54 2.34	70.6	+19.795-.077	-.16	-.010 0	.08	.32	.15	
138	+38 54 34.90	52.5	+19.800-.082	-.19	-.004 0	.12	.41	.26	32 Andromedæ
139	-60 0 58.71	78.8	+20.250-.074	-.11	+.446 - 2	.13	.63	.24	60 G Tucanæ
140	+24 4 50.24	79.1	+19.772-.082	-.18	-.024 0	.09	.54	.19	
141	+49 57 50.39	68.6	+19.786-.085	-.21	-.007 0	.09	.26	.14	
142	-46 38 2.79	79.2	+19.766-.074	-.13	-.026 0	.09	.57	.20	
143	-57 3 5.70	79.5	+19.821-.074	-.12	+.038 0	.13	.61	.23	h 3387. 10 <sup>m</sup> 13" 253°
144	-39 0 41.53	79.0	+19.772-.078	-.14	-.001 0	.12	.56	.21	83 G Sculptoris $\lambda^1$
145	+46 28 39.52	57.8	+19.746-.088	-.20	-.027 0	.10	.35	.21	
146	-66 1 2.94	87.6	+19.816-.071	-.10	+.047 0	.11	.71	.19	
147	-18 32 7.79	68.2	+19.803-.082	-.15	+.039 0	.03	.16	.07	
148	-58 0 41.38	78.4	+19.766-.075	-.11	+.007 0	.10	.42	.17	h 3391. 11 <sup>m</sup> 20" 218°
149	+47 18 57.73	80.2	+19.768-.090	-.20	+.009 0	.12	.46	.18	
150	+74 26 29.24	79.7	+19.733-.104	-.33	-.024 0	.04	.24	.08	21 Cassiopeiae

116 Hough 212. 5<sup>m</sup> 9-6<sup>m</sup> 6 0" 3 261°; binary.127  $\beta$  395. 6<sup>m</sup> 6-6<sup>m</sup> 7 < 1"; rapid binary.134  $\Sigma$  46. 8<sup>m</sup> 5 7" 192°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
		M	h	m	s		s	s		s	s	"	"	"
151	Br 71	5.0	0	39	8.744	71.4	+3.0271-	.0016	+0.010	-0.0004	0	.12	.48	.22
152	o Cassiopeiæ	4.9	39	8.979	85.3	85.3	+3.3246+	.0416	+0.029	+0.0022	0	.05	.32	.09
153	L 192	6.1	39	22.063	90.1	90.1	+2.9070-	.0171	+0.017	+0.0195-	1	.11	.70	.18
154	Pi 162	5.5	39	35.107	71.6	71.6	+3.3935+	.0541	+0.042	-0.0029	0	.11	.48	.21
155	Pi 166	5.4	39	47.551	86.5	86.5	+2.9730-	.0073	+0.012	-0.0034	0	.10	.75	.20
156	Pi 171	6.7	40	18.668	67.4	67.4	+3.0531+	.0015	+0.009	+0.0020	0	.15	.60	.30
157	Br 73	6.3	40	27.347	68.0	68.0	+3.0136-	.0026	+0.010	-0.0027	0	.10	.38	.19
158	L 207	6.0	41	4.187	91.2	91.2	+2.8246-	.0232	+0.024	+0.0178-	2	.14	.75	.20
159	Br 72	5.5	41	5.108	72.9	72.9	+3.9246+	.1663	+0.275	+0.0044+	1	.08	.33	.15
160	L 203	5.8	41	13.593	88.4	88.4	+2.9842-	.0076	+0.012	+0.0137-	1	.10	.81	.20
161	Br 75	5.8	41	18.864	55.4	55.4	+3.1336+	.0122	+0.010	-0.0026	0	.15	.54	.33
162	Br 76	5.7	41	48.402	71.4	71.4	+3.1248+	.0103	+0.009	+0.0033	0	.10	.39	.18
163	Br 77	6.3	41	56.457	67.3	67.3	+3.1627+	.0149	+0.011	+0.0065	0	.12	.52	.25
164	ζ Andromedæ	4.2	42	2.184	79.5	79.5	+3.1721+	.0180	+0.012	-0.0074	0	.04	.22	.08
165	Br 80	6.3	42	13.254	60.8	60.8	+3.0998+	.0074	+0.009	+0.0009	0	.10	.42	.23
166	Pi 181	7.5	42	19.216	69.4	69.4	+3.3737+	.0473	+0.033	-0.0006	0	.16	.46	.25
167	Br 81	6.8	42	36.501	66.5	66.5	+3.1756+	.0158	+0.011	+0.0115	0	.15	.54	.28
168	η Cassiopeiæ c.g	3.6	43	2.853	67.8	67.8	+3.5998+	.0649	+0.050	+0.1390+	17	.10	.72	.16
169	L 218	5.5	43	4.172	92.0	92.0	+2.9710-	.0069	+0.011	+0.0009	0	.10	.72	.16
170	Br 84	6.2	43	6.050	67.6	67.6	+3.1090+	.0078	+0.009	+0.0071	0	.14	.50	.25
171	Pi 189	6.0	43	8.185	73.9	73.9	+3.1432+	.0065	+0.009	+0.0500-	1	.07	.32	.13
172	ν Cassiopeiæ	5.0	43	9.806	74.2	74.2	+3.3785+	.0467	+0.033	+0.0035	0	.09	.36	.16
173	δ Piscium	4.6	43	29.595	73.8	73.8	+3.1090+	.0080	+0.009	+0.0055	0	.04	.21	.09
174	Br 86	5.3	43	43.285	65.4	65.4	+3.1455+	.0132	+0.010	-0.0014	0	.13	.58	.29
175	ν Andromedæ	4.6	44	17.786	77.9	77.9	+3.2935+	.0329	+0.020	+0.0017	0	.07	.34	.13
176	L 226	6.5	44	18.344	76.8	76.8	+2.7915-	.0215	+0.023	-0.0031	0	.16	.78	.31
177	Pi 198	6.0	44	24.222	77.6	77.6	+3.0148-	.0028	+0.010	+0.0071	0	.14	.78	.29
178	Br 88 m	5.7	44	30.822	78.2	78.2	+3.2116+	.0206	+0.013	+0.0069	0	.10	.33	.14
179	Br 82	5.7	44	39.284	85.8	85.8	+3.6007+	.0837	+0.082	+0.0047+	1	.07	.66	.17
180	Pi 196	6.4	44	43.051	67.0	67.0	+3.3331+	.0378	+0.024	+0.0065+	1	.18	.58	.31
181	Br 89	5.4	45	7.076	76.4	76.4	+3.0047-	.0012	+0.010	-0.0160	0	.07	.28	.12
182	λ Hydri	5.1	45	7.273	78.8	78.8	+2.0993-	.0367	+0.074	+0.0355-	13	.08	.64	.22
183	Pi 199	6.6	45	13.892	74.8	74.8	+3.4090+	.0482	+0.033	+0.0135+	2	.14	.52	.23
184	L 231	6.9	45	22.631	87.4	87.4	+2.8182-	.0190	+0.020	-0.0008	0	.14	.86	.24
185	Br 74	5.7	45	29.70	72.3	72.3	+5.302	.602		+0.031	+24	.07	.32	.14
186	Pi 203	6.4	45	51.317	73.5	73.5	+3.3994+	.0481	+0.034	-0.0013	0	.15	.57	.26
187	ρ Phœnicis	5.4	46	8.068	84.5	84.5	+2.7415-	.0243	+0.026	+0.0055-	1	.12	.63	.20
188	Br 91	6.7	46	9.285	77.2	77.2	+3.0863+	.0059	+0.009	+0.0007	0	.11	.69	.25
189	Br 90	5.1	47	5.828	73.9	73.9	+3.5460+	.0722	+0.064	-0.0098-	1	.09	.38	.16
190	L 238	5.7	47	46.076	92.3	92.3	+2.9474-	.0077	+0.012	+0.0014	0	.11	.92	.20
191	Br 93	5.0	47	53.786	68.8	68.8	+3.0638+	.0037	+0.009	-0.0004	0	.05	.24	.11
192	Pi 211	6.5	48	1.199	76.4	76.4	+3.4394+	.0509	+0.036	+0.0094+	1	.16	.54	.24
193	Br 94	5.1	49	3.741	61.4	61.4	+3.5306+	.0660	+0.054	-0.0038-	1	.10	.42	.23
194	Br 98	6.6	49	14.868	70.0	70.0	+3.0274-	.0001	+0.010	+0.0016	0	.13	.62	.28
195	Br 96 m	6.0	49	17.486	74.6	74.6	+3.1702+	.0150	+0.010	+0.0016	0	.09	.34	.15
196	L 253	5.8	49	28.259	81.6	81.6	+2.5086-	.0321	+0.041	+0.0082-	2	.15	.69	.25
197	Br 97 m	5.6	49	36.721	74.8	74.8	+3.2047+	.0180	+0.011	+0.0100	0	.09	.45	.18
198	Br 100	6.2	50	35.696	68.4	68.4	+3.2192+	.0206	+0.012	-0.0001	0	.11	.60	.27
199	γ Cassiopeiæ	2.0	50	40.148	73.8	73.8	+3.5875+	.0723	+0.061	+0.0040+	1	.03	.16	.07
200	Pi 226	4.9	0	50	42.308	64.3	+3.5420+	.0668	+0.055	-0.0116-	2	.12	.54	.28

158 Harv. 7<sup>m</sup>3 14'' 307°.178 Σ 61. 6<sup>m</sup>4-6<sup>m</sup>4 4''5 117°.190 β 734. 8<sup>m</sup>8 11'' 346°.

## CATALOGUE OF 6188 STARS FOR 1900

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No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\eta'$ and 100 $\Delta\mu'$	Prob. Errors.			Remarks.
						$\delta$ Ep.	100 $\mu'$	$\delta$ 10	
	° ' "		" "	"	"	"	"	"	
151	-11 9 15.17	68.3	+19.645-.083	-.16	-.110 0	.09	.33	.17	17 Ceti $\phi^1$
152	+47 44 13.53	80.0	+19.750-.091	-.20	-.005 0	.06	.25	.09	$\beta$ 231. 12 <sup>m</sup> 33" 303°
153	-38 58 21.68	85.4	+19.868-.081	-.14	+.116 0	.11	.56	.18	84 G Sculptoris $\lambda^2$
154	+54 40 26.26	68.6	+19.739-.094	-.22	-.009 0	.11	.40	.20	$\beta$ 492. 12 <sup>m</sup> 2" 152°
155	-22 33 21.44	87.1	+19.832-.083	-.15	+.087 0	.09	.55	.15	73 G Ceti
156	-5 10 38.83	68.7	+19.769-.086	-.16	+.031 0	.12	.51	.24	
157	-13 25 20.13	69.4	+19.539-.086	-.16	-.196 0	.09	.34	.17	18 Ceti
158	-48 6 4.23	89.6	+19.807-.082	-.12	+.081 0	.11	.64	.17	72 G Phoenicis*
159	+74 18 4.74	69.4	+19.714-.110	-.34	-.012 0	.08	.27	.13	23 Cassiopeæ
160	-23 4 7.39	88.9	+19.722-.087	-.15	-.001 0	.11	.90	.22	
161	+14 55 48.16	56.1	+19.670-.090	-.18	-.052 0	.14	.55	.33	57 Piscium
162	+11 25 42.24	70.8	+19.684-.091	-.17	-.030 0	.08	.34	.16	58 Piscium
163	+19 1 55.72	66.1	+19.721-.092	-.18	+.009 0	.10	.48	.23	59 Piscium
164	+23 43 23.35	73.4	+19.631-.093	-.18	-.080 0	.04	.21	.09	
165	+6 11 42.33	61.4	+19.698-.091	-.17	-.010 0	.09	.42	.22	60 Piscium
166	+50 53 56.63	53.6	+19.705-.099	-.21	-.001 0	.12	.36	.24	$\Sigma$ 59. 8 <sup>m</sup> 5 2" 147°
167	+20 22 44.24	62.2	+19.711-.094	-.18	+.010 0	.12	.49	.26	61 Piscium
168	+57 17 5.53	64.9	+19.172-.111	-.24	-.522- 5				See Appendix
169	-22 16 5.27	90.0	+19.698-.089	-.15	+.004 0	.10	.77	.18	79 G Ceti
170	+6 45 14.12	63.7	+19.701-.093	-.17	+.008 0	.12	.42	.23	62 Piscium
171	+4 45 59.14	69.3	+18.549-.096	-.17	-1.144- 1	.06	.26	.12	
172	+50 25 21.78	65.3	+19.681-.101	-.21	-.011 0	.09	.30	.16	
173	+7 2 27.00	75.1	+19.643-.094	-.17	-.044 0	.04	.20	.08	
174	+16 24 2.58	61.5	+19.480-.095	-.18	-.203 0	.13	.51	.28	64 Piscium
175	+40 32 3.37	68.8	+19.653-.101	-.20	-.021 0	.06	.24	.12	
176	-47 14 37.11	77.5	+19.693-.086	-.13	+.020 0	.13	.71	.26	73 G Phoenicis
177	-14 6 13.28	77.4	+19.585-.093	-.16	-.087 0	.12	.64	.24	$\beta$ 1160. 12 <sup>m</sup> 1' 3 117°
178	+27 9 56.84	70.7	+19.663-.099	-.19	-.007 0	.08	.28	.14	65 Piscium $i^*$
179	+63 42 11.38	79.4	+19.668-.110	-.26	.000 0	.07	.39	.14	
180	+44 27 25.61	60.6	+19.663-.103	-.20	-.003 0	.15	.48	.28	
181	-11 10 58.51	73.1	+19.435-.094	-.16	-.225 0	.07	.29	.13	19 Ceti $\phi^2$
182	-75 28 4.00	78.5	+19.644-.069	-.05	-.016- 1	.07	.54	.18	
183	+50 57 48.22	68.4	+19.656-.105	-.22	-.002 0	.13	.44	.22	
184	-43 56 24.72	80.7	+19.666-.089	-.13	+.011 0	.12	.64	.22	74 G Phoenicis
185	+83 9 52.39	70.7	+19.643-.162		-.010- 1	.08	.28	.13	
186	+51 1 38.64	66.2	+19.635-.107	-.22	-.012 0	.14	.47	.25	
187	-51 31 57.44	84.7	+19.680-.038	-.12	+.038 0	.10	.58	.18	
188	+2 50 32.42	68.4	+19.556-.098	-.17	-.086 0	.11	.53	.25	
189	+60 34 32.58	65.3	+19.799-.114	-.25	+.174 0	.08	.28	.15	
190	-24 33 1.52	88.7	+19.645-.097	-.15	+.032 0	.11	.97	.23	88 G Ceti *
191	-1 41 14.44	65.7	+19.595-.101	-.16	-.016 0	.05	.21	.10	20 Ceti
192	+52 8 48.23	56.6	+19.582-.113	-.22	-.026 0	.15	.43	.28	$\Sigma$ 70. 10 <sup>m</sup> 8" 244°
193	+58 25 52.88	62.9	+19.545-.118	-.25	-.044 0	.10	.43	.23	26 Cassiopeæ $v^1$
194	-9 16 55.53	66.6	+19.539-.102	-.16	-.047 0	.10	.38	.19	21 Ceti
195	+18 38 45.74	72.8	+19.572-.107	-.18	-.013 0	.08	.31	.14	66 Piscium *
196	-63 24 51.66	83.4	+19.571-.087	-.09	-.011 0	.13	.67	.22	69 G Tucanæ ( $\lambda^1$ )
197	+23 5 12.33	77.0	+19.546-.109	-.18	-.033 0	.07	.40	.15	36 Andromedæ *
198	+26 40 1.76	66.2	+19.566-.111	-.19	+.006 0	.11	.48	.24	67 Piscium $k$
199	+60 10 31.00	69.1	+19.557-.123	-.26	-.002 0	.03	.17	.08	$\beta$ 1028. 11 <sup>m</sup> 2" 257°
200	+58 38 26.76	61.2	+19.516-.121	-.25	-.042 0	.11	.47	.25	28 Cass. $v^2$ Br 3224

195 O $\Sigma$  20. 6<sup>m</sup>3-7<sup>m</sup>4 < 1"; binary.197  $\Sigma$  73. 6<sup>m</sup>1-6<sup>m</sup>7 1".5 $\pm$ ; binary, 140 yrs.  $\pm$ .



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m		s	s			s	"	"
201	Groomb 184 <i>m</i>	5.8	0	50	45.314	73.6	+3.5824+.0712	+0.059	+0.0052+1	.13	.70	.29	
202	Br 103	5.6	51	0.630		81.4	+3.0090-.0012	+0.010	-.0017 0	.07	.48	.16	
203	$\mu$ Andromedæ	3.9	51	12.016		78.0	+3.3162+.0309	+0.018	+0.0128+1	.03	.20	.07	
204	$\lambda$ Tucanæ	5.5	51	16.188		83.2	+2.2524-.0325	+0.055	-.0023 0	.14	.70	.23	
205	L 259	6.9	51	27.240		81.9	+2.6676-.0244	+0.027	+0.0008 0	.15	.75	.26	
206	$\eta$ Andromedæ	4.6	51	51.875		65.4	+3.1958+.0179	+0.011	-.0031 0	.11	.57	.27	
207	L 257	7.5	51	56.545		88.4	+2.9300-.0081	+0.012	+0.0035 0	.14	1.02	.26	
208	Groomb 192	6.1	52	10.971		74.7	+3.7512+.0978	+0.101	+0.0072+2	.10	.63	.24	
209	Br 105	5.7	52	25.321		68.4	+3.2374+.0221	+0.013	+0.0009 0	.11	.52	.24	
210	Pi 243	6.5	52	39.576		77.5	+3.1427+.0118	+0.009	-.0008 0	.10	.46	.18	
211	Br 106	6.0	53	43.454		71.0	+3.0050-.0010	+0.009	-.0018 0	.11	.48	.22	
212	$\alpha$ Sculptoris	4.4	53	47.289		83.3	+2.8942-.0099	+0.012	+0.0006 0	.05	.28	.09	
213	L 272	7.3	54	0.289		87.8	+2.3268-.0304	+0.045	-.0069+1	.18	.87	.26	
214	L 271	6.6	54	12.871		81.0	+2.5069-.0283	+0.035	+0.0051-1	.16	.72	.27	
215	Pi 251	8.3	54	15.783		80.8	+3.0706+.0050	+0.009	-.0031 0	.14	.54	.21	
216	Groomb 205	6.4	54	23.762		58.4	+3.3804+.0385	+0.024	+0.0028 0	.15	.68	.38	
217	Br 107	6.4	54	38.599		76.4	+3.1066+.0079	+0.009	+0.0014 0	.08	.38	.15	
218	Br 92	4.6	55	1.57.		73.8	+7.396. +1.482.		+0.777. +96	.04	.16	.07	
219	Br 65	6.8	55	36.82.		62.1	+15.416. +9.913.		+1.180. +607	.07	.24	.13	
220	L 274	7.3	55	52.545		94.4	+2.8359-.0133	+0.015	+0.0047 0	.13	1.14	.22	
221	$\xi$ Sculptoris	5.7	56	38.056		92.4	+2.8119-.0147	+0.016	+0.0086 0	.14	1.11	.24	
222	Br 110	8.0	56	54.788		69.2	+3.1165+.0088	+0.009	+0.0015 0	.09	.45	.20	
223	Br 108	6.1	57	16.938		64.2	+3.3559+.0344	+0.020	-.0019 0	.14	.40	.23	
224	$\sigma$ Piscium	5.6	57	20.376		78.4	+3.2751+.0248	+0.014	+0.0018 0	.10	.38	.16	
225	$\sigma$ Sculptoris	5.7	57	39.936		81.2	+2.8698-.0107	+0.013	+0.0061 0	.11	.64	.22	
226	$\epsilon$ Piscium	4.5	57	45.139		75.9	+3.1099+.0088	+0.009	-.0054 0	.02	.15	.06	
227	$\omega$ Phœnicis	6.3	57	48.158		83.0	+2.5487-.0247	+0.030	+0.0006 0	.12	.70	.23	
228	Br 115	5.9	57	59.038		68.0	+3.0333+.0023	+0.009	-.0076 0	.12	.48	.23	
229	L 289	5.5	58	18.852		82.7	+2.7116-.0185	+0.020	-.0007 0	.15	.75	.25	
230	Br 116	6.2	58	40.174		76.6	+3.0851+.0054	+0.009	+0.0079 0	.06	.32	.12	
231	Groomb 232	6.9	58	58.881		57.5	+3.3596+.0331	+0.019	+0.0073 0	.16	.68	.39	
232	Br 95	6.6	59	6.10.		71.4	+8.891. +2.337.		+0.059. +86	.08	.28	.14	
233	Br 120	6.3	59	41.706		72.1	+3.1052+.0077	+0.009	+0.0020 0	.11	.40	.19	
234	Br 119	5.9	0	59 48.519		76.9	+3.1607+.0129	+0.009	-.0002 0	.10	.51	.20	
235	Br 121	5.5	1	0 19.166		63.4	+3.2091+.0171	+0.010	+0.0037 0	.13	.46	.25	
236	Br 122	5.8	1	0 19.916		76.5	+3.2082+.0170	+0.010	+0.0028 0	.15	.62	.26	
237	Br 126	6.6	0	36.265		64.9	+3.0047 .0000	+0.009	-.0028 0	.13	.48	.25	
238	Br 124	6.4	0	38.745		71.4	+3.1003+.0073	+0.009	+0.0012 0	.10	.45	.20	
239	Br 109	6.5	0	39.524		76.4	+4.9432+.3481	+0.834	-.0114-8	.10	.57	.22	
240	Br 125	7.4	0	40.890		78.4	+3.0998+.0073	+0.009	+0.0007 0	.12	.63	.23	
241	Br 123	6.8	0	41.024		65.2	+3.2883+.0253	+0.014	+0.0004 0	.13	.54	.27	
242	Br 128	5.8	1	4.114		72.0	+3.0100+.0001	+0.009	+0.0021 0	.11	.46	.21	
243	Br 127	6.3	1	17.891		75.2	+3.1511+.0118	+0.009	+0.0010 0	.11	.45	.19	
244	$\mu$ Cassiopeiæ	5.4	1	36.812		61.4	+3.9608+.0660	+0.040	+3.921+35	.05	.21	.12	
245	$\beta$ Phœnicis <i>m</i>	3.3	1	37.333		67.6	+2.6840-.0179	+0.020	-.0042 0	.10	.39	.19	
246	Br 129	5.1	2	16.239		68.2	+3.4268+.0385	+0.022	+0.0152+1	.09	.33	.17	
247	Groomb 244	6.0	2	25.715		82.3	+3.6441+.0674	+0.051	+0.0023 0	.14	.48	.19	
248	Br 131	6.4	2	29.175		83.3	+3.3080+.0254	+0.014	+0.0153+1	.10	.40	.15	
249	Br 132	5.7	2	35.216		60.7	+3.2110+.0167	+0.010	+0.0060 0	.15	.54	.30	
250	Br 135	6.0	1	2 44.481		69.4	+3.0162+.0002	+0.009	+0.0097 0	.12	.52	.24	

230  $\Sigma$  84. 9<sup>m</sup> 16'' 253°.235-6  $\Sigma$  88. 5<sup>m</sup>5-5<sup>m</sup>8 30'' 160°.

## CATALOGUE OF 6188 STARS FOR 1900

11

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10	Remarks.
	" ' "		" "	"	"	" " "	
201	+59 49 17.21	70.2	+19.557-.123	-.26	.000 0	.12 .57 .26	$\beta$ 1099. 6 <sup>M</sup> <sub>1</sub> -6 <sup>M</sup> <sub>8</sub> 0''.2, bin.
202	-11 48 29.07	75.7	+19.552-.105	-.15	.000 0	.08 .38 .15	22 Ceti $\phi^3$
203	+37 57 24.85	74.4	+19.576-.116	-.20	+.027 0	.04 .21 .08	
204	-70 4 4.37	81.8	+19.510-.081	-.07	-.037 0	.11 .56 .19	70 G Tucanæ $\lambda^2$ . Lac 262
205	-53 43 58.45	81.5	+19.488-.095	-.11	-.056 0	.12 .64 .22	79 G Phœnicis
206	+22 52 39.74	60.2	+19.494-.113	-.18	-.042 0	.10 .45 .24	
207	-25 54 17.56	87.6	+19.524-.104	-.14	-.010 0	.14 1.10 .29	
208	+65 48 42.48	69.4	+19.542-.132	-.29	+.013 0	.10 .51 .23	
209	+28 27 5.62	68.3	+19.513-.115	-.19	-.012 0	.10 .43 .20	68 Piscium $h$
210	+13 9 18.73	76.0	+19.501-.113	-.18	-.019 0	.09 .46 .18	
211	-11 55 11.35	71.6	+19.483-.110	-.15	-.016 0	.09 .39 .17	23 Ceti
212	-29 53 52.43	81.2	+19.498-.106	-.13	+.001 0	.06 .27 .10	
213	-67 6 3.66	83.1	+19.481-.087	-.08	-.012 0	.14 .63 .22	Innes 48. 8 <sup>M</sup> <sub>8</sub> 0''.8 342°
214	-61 14 13.39	79.8	+19.513-.094	-.09	+.025 0	.14 .61 .23	72 G Tucanæ
215	+0 14 31.14	74.9	+19.386-.113	-.16	-.102 0	.10 .35 .16	$\Sigma$ 80. 9 <sup>M</sup> 21'' 320°
216	+44 10 28.12	48.3	+19.466-.124	-.21	-.019 0	.13 .51 .34	$\Sigma$ 79. 7 <sup>M</sup> .4 8'' 192°
217	+5 56 37.22	76.0	+19.471-.115	-.17	-.009 0	.08 .44 .17	
218	+85 43 14.50	80.1	+19.467-.267		-.005-3	.04 .20 .07	43 H. Ceph. 2 Urs. Min.
219	+88 29 15.58	57.9	+19.444-.554		-.016-6	.09 .34 .20	B A C 240
220	-36 46 38.32	91.1	+19.435-.108	-.13	-.019 0	.13 1.02 .23	93 G Sculptoris
221	-39 27 23.45	90.4	+19.498-.109	-.12	+.060 0	.14 1.02 .24	
222	+7 24 4.76	67.4	+19.463-.120	-.17	+.031 0	.09 .48 .22	70 Piscium
223	+40 48 27.26	62.4	+19.414-.129	-.21	-.010 0	.10 .37 .20	39 Andromedæ
224	+31 16 2.29	74.4	+19.392-.127	-.20	-.031 0	.08 .34 .15	
225	-32 5 25.37	80.0	+19.424-.112	-.13	+.008 0	.11 .60 .21	
226	+7 21 6.33	71.6	+19.442-.121	-.17	+.028 0	.03 .15 .06	
227	-57 32 27.32	81.8	+19.427-.101	-.09	+.015 0	.10 .59 .19	
228	-5 22 16.87	70.0	+19.308-.119	-.16	-.101 0	.10 .39 .18	25 Ceti
229	-46 56 6.95	82.6	+19.403-.108	-.11	+.002 0	.13 .88 .27	81 G Phœnicis
230	+0 49 51.06	68.5	+19.360-.122	-.16	-.034 0	.05 .26 .12	26 Ceti *
231	+39 27 18.15	57.6	+19.366-.133	-.21	-.021 0	.13 .55 .32	
232	+86 36 47.45	72.9	+19.367-.341		-.017-2	.09 .30 .14	B A C 273
233	+5 7 12.84	68.3	+19.362-.125	-.17	-.009 0	.09 .38 .18	73 Piscium
234	+14 24 29.48	74.4	+19.412-.127	-.18	+.044 0	.09 .37 .16	72 Piscium
235	+20 56 15.63	59.3	+19.340-.130	-.18	-.017 0	.10 .37 .21	74 Piscium $\psi^1$ pr *
236	+20 55 47.51	74.6	+19.331-.130	-.18	-.025 0	.12 .50 .21	74 Piscium $\psi^1$ seq.*
237	-10 30 51.62	68.2	+19.318-.123	-.15	-.032 0	.11 .42 .21	27 Ceti
238	+4 22 33.21	66.2	+19.236-.126	-.17	-.113 0	.08 .32 .16	77 Piscium *
239	+79 28 41.16	75.7	+19.309-.196	-.64	-.040 0	.09 .43 .17	Groomb 230
240	+4 22 37.55	76.5	+19.240-.126	-.17	-.108 0	.10 .65 .24	*
241	+31 38 47.28	58.4	+19.329-.134	-.20	-.019 0	.10 .40 .23	76 Piscium $\sigma^2$
242	-10 22 30.25	72.7	+19.350-.124	-.15	+.011 0	.10 .38 .17	28 Ceti
243	+12 25 11.82	72.1	+19.371-.130	-.17	+.037 0	.10 .40 .18	75 Piscium
244	+54 25 47.33	62.7	+17.771-.185	-.25	-1.556-23	.06 .24 .13	Parallax ".13
245	-47 15 15.71	72.4	+19.313-.112	-.11	-.014 0	.08 .37 .16	Sellers. 4 <sup>M</sup> <sub>1</sub> -4 <sup>M</sup> <sub>1</sub> 1'' 180°
246	+43 24 33.58	59.6	+19.254-.143	-.22	-.057-1	.09 .31 .18	41 Andromedæ
247	+57 43 46.29	86.2	+19.304-.151	-.27	-.004 0	.13 .43 .16	
248	+31 28 42.20	79.3	+19.259-.139	-.20	-.047-1	.10 .35 .15	78 Piscium
249	+20 12 26.61	62.7	+19.212-.135	-.18	-.092 0	.13 .51 .27	79 Piscium $\psi^2$
250	-10 19 13.86	71.5	+19.322-.127	-.15	+.022 0	.10 .42 .19	30 Ceti

238-240  $\Sigma$  90. 6<sup>M</sup><sub>4</sub>-7<sup>M</sup>.4 33'' 83°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			h	m	s					$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>					<sup>s</sup>	<sup>s</sup>	<sup>"</sup>	<sup>"</sup>	<sup>"</sup>	
251	Br 133	6.6	1	2	50.224	69.8	+3.0905+.0058	+ .009	+ .0089- 1	.08	.36	.17
252	Br 136	5.7	3	13.034	65.3	65.3	+3.0868+.0078	+ .009	- .0182 0	.06	.30	.15
253	$\nu$ Phœnicis	5.4	3	13.817	84.7	84.7	+2.7468-.0150	+ .017	+ .0025 0	.15	.72	.24
254	$\iota$ Tucanæ	5.5	3	21.067	79.9	79.9	+2.3884-.0248	+ .032	+ .0111- 2	.11	.63	.22
255	$\eta$ Ceti	3.5	3	33.548	73.3	73.3	+3.0172 .0000	+ .009	+ .0141 0	.05	.28	.12
256	Br 117	5.8	3	37.257	78.2	78.2	+5.0142+.3435	+ .778	+ .0324+ 16	.04	.28	.10
257	$\phi$ Androm. <i>m</i>	4.2	3	41.719	73.8	73.8	+3.4623+.0433	+ .026	+ .0007 0	.11	.33	.16
258	Br 130	5.5	3	53.177	64.3	64.3	+4.0017+.1203	+ .133	+ .0078+ 1	.12	.44	.23
259	$\beta$ Andromedæ	2.1	4	7.850	76.6	76.6	+3.3466+.0289	+ .015	+ .0149+ 1	.03	.14	.05
260	$\zeta$ Phœnicis	4.1	4	10.946	75.7	75.7	+2.5300-.0217	+ .026	+ .0008 0	.11	.50	.20
261	Br 144	5.8	4	28.311	65.7	65.7	+3.2007+.0160	+ .010	- .0003 0	.18	.72	.36
262	Br 143	5.9	4	37.903	63.6	63.6	+3.3898+.0358	+ .020	- .0122- 1	.15	.54	.29
263	Br 138	5.6	4	57.527	81.4	81.4	+3.8329+.0916	+ .083	+ .0053+ 1	.12	.50	.18
264	$\theta$ Cassiopeiæ	4.5	5	0.595	59.8	59.8	+3.6254+.0600	+ .041	+ .0264+ 3	.07	.24	.14
265	Br 139	5.6	5	10.329	72.0	72.0	+3.8615+.0959	+ .089	+ .0035 0	.12	.38	.18
266	Br 147	6.8	5	11.000	68.4	68.4	+3.0092+.0008	+ .009	- .0008 0	.13	.57	.27
267	Br 148	6.4	5	24.755	73.5	73.5	+3.0847+.0063	+ .009	- .0002 0	.08	.38	.16
268	Br 145	6.0	5	32.957	66.5	66.5	+3.3567+.0310	+ .016	- .0018 0	.15	.68	.33
269	Br 146	5.3	5	35.734	75.4	75.4	+3.2964+.0249	+ .013	- .0017 0	.14	.52	.23
270	$\chi$ Piscium	4.8	6	4.554	67.6	67.6	+3.2158+.0170	+ .010	+ .0014 0	.15	.57	.28
271	$\tau$ Piscium	4.6	6	9.043	78.0	78.0	+3.2936+.0238	+ .013	+ .0055 0	.05	.28	.10
272	L 325	7.4	6	9.408	86.7	86.7	+2.4710-.0216	+ .026	- .0066+ 1	.16	.81	.25
273	Br 152	6.5	6	38.291	73.3	73.3	+3.0499+.0041	+ .009	- .0038 0	.12	.52	.23
274	Pi 9	6.7	6	46.462	65.8	65.8	+3.4569+.0408	+ .023	+ .0033 0	.14	.56	.28
275	Br 154	6.8	7	22.901	72.0	72.0	+3.0735+.0064	+ .009	- .0120 0	.08	.33	.15
276	Br 137	6.4	7	39.332	59.2	59.2	+5.1285+.3615	+ .838	- .0173- 5	.13	.45	.26
277	L 326	6.8	7	39.862	85.1	85.1	+2.8411-.0092	+ .012	+ .0055 0	.12	.81	.23
278	Br 156	7.0	7	45.687	73.7	73.7	+3.0186+.0020	+ .009	- .0038 0	.15	.64	.28
279	L 327	7.3	8	8.113	84.1	84.1	+2.7930-.0112	+ .014	+ .0024 0	.12	.63	.20
280	L 328	6.2	8	9.050	86.0	86.0	+2.7692-.0125	+ .015	+ .0071- 1	.10	.56	.17
281	$\phi$ Piscium	4.7	8	19.045	73.8	73.8	+3.2491+.0196	+ .010	+ .0016 0	.11	.36	.17
282	$\zeta$ Piscium	5.5	8	30.307	71.2	71.2	+3.1299+.0091	+ .009	+ .0089 0	.05	.26	.11
283	Br 159	6.6	8	31.730	73.3	73.3	+3.1301+.0091	+ .009	+ .0091 0	.08	.34	.15
284	Br 161	6.1	8	48.823	74.6	74.6	+3.1809+.0140	+ .009	- .0019 0	.11	.51	.21
285	Br 164	5.3	9	21.779	70.5	70.5	+3.0215+.0016	+ .009	+ .0084 0	.08	.30	.14
286	Br 162	6.3	9	30.251	67.7	67.7	+3.1168+.0089	+ .009	- .0008 0	.13	.44	.22
287	Br 165	6.0	9	42.769	69.5	69.5	+3.0601+.0049	+ .008	- .0017 0	.09	.39	.18
288	$\nu$ Phœnicis	5.1	10	40.391	79.2	79.2	+2.7149-.0167	+ .018	+ .0636- 5	.13	.69	.25
289	Abd 34	7.1	11	27.689	76.2	76.2	+4.0507+.1164	+ .120	- .0013 0	.12	.57	.23
290	Br 167	5.7	11	31.629	77.8	77.8	+3.0432+.0042	+ .008	- .0074 0	.07	.30	.12
291	Br 168	7.2	11	51.833	65.9	65.9	+3.0700+.0042	+ .008	+ .0178 0	.09	.34	.18
292	Br 155	6.6	11	59.219	68.8	68.8	+4.8640+.2730	+ .502	- .0029+ 2	.12	.60	.27
293	$\kappa^1$ Tucanæ	7.0	12	22.445	89.1	89.1	+2.0337-.0180	+ .027	+ .0659- 14	.20	.92	.27
294	$\kappa^2$ Tucanæ	5.3	12	22.640	76.9	76.9	+2.0427-.0184	+ .027	+ .0751- 17	.10	.60	.22
295	Br 171	5.4	12	38.391	79.6	79.6	+3.0914+.0073	+ .008	- .0034 0	.06	.28	.10
296	Br 172	7.3	12	40.862	71.8	71.8	+3.0137+.0018	+ .008	+ .0013 0	.14	.60	.27
297	L 361	6.5	13	35.451	79.1	79.1	+2.0885-.0178	+ .028	+ .0063- 1	.13	.69	.25
298	$\phi$ Cassiopeiæ	5.2	13	47.285	66.6	66.6	+3.7426+.0699	+ .050	+ .0012 0	.09	.34	.18
299	Br 163	6.5	13	51.639	68.0	68.0	+4.7566+.2380	+ .391	+ .0218+ 7	.13	.54	.26
300	$\nu$ Piscium	4.8	1	13 58.086	81.1	81.1	+3.2876+.0219	+ .011	+ .0017 0	.04	.26	.08

257  $\Omega$  515.  $4^M 4-6^M 0'' 2 230^\circ$ .283  $\beta$  1029.  $11^M 0'' 9 242^\circ$ .



## CATALOGUE OF 6188 STARS FOR 1900

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No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
251	+ 1 28 13.47	65.7	+18.873-.130	-.16	-.425 0	.07	.34	.17	29 Ceti
252	+ 5 7 14.31	64.2	+19.108-.130	-.17	-.181+ 1	.05	.23	.12	80 Piscium <i>e</i>
253	-42 1 17.84	81.1	+19.287-.117	-.12	-.002 0	.12	.58	.21	
254	-62 18 33.46	81.6	+19.301-.103	-.08	+ .015 0	.10	.58	.19	
255	-10 42 44.45	77.3	+19.148-.129	-.15	-.133- 1	.05	.20	.08	
256	+79 8 30.01	77.0	+19.287-.210	-.65	+ .008- 1	.05	.24	.09	44 H Cephei
257	+46 42 30.96	64.6	+19.271-.147	-.23	-.007 0	.08	.26	.14	*
258	+68 14 47.52	56.2	+19.259-.169	-.34	-.014 0	.10	.34	.21	31 Cassiopeiæ
259	+35 5 25.40	73.8	+19.152-.143	-.20	-.115- 1	.03	.14	.06	
260	-55 46 49.19	77.7	+19.292-.110	-.10	+ .026 0	.09	.46	.18	Innes 8. 8 <sup>m</sup> .5 6" 243°
261	+19 7 29.77	59.7	+19.260-.138	-.18	+ .001 0	.15	.56	.32	81 Piscium $\psi^3$
262	+41 32 58.81	58.9	+19.209-.145	-.22	-.046 0	.12	.42	.25	44 Andromedæ
263	+63 40 15.11	81.8	+19.233-.165	-.31	-.014 0	.09	.45	.16	
264	+54 37 4.82	51.9	+19.228-.157	-.26	-.018- 1	.06	.19	.13	
265	+64 29 13.43	68.0	+19.227-.166	-.31	-.015 0	.09	.29	.15	32 Cassiopeiæ
266	- 9 26 16.36	70.1	+19.205-.131	-.15	-.037 0	.11	.46	.21	32 Ceti
267	+ 1 54 48.67	69.0	+19.234-.135	-.16	-.002 0	.07	.34	.16	33 Ceti
268	+37 11 31.33	62.1	+19.229-.146	-.21	-.003 0	.14	.60	.32	45 Andromedæ
269	+30 53 34.24	72.3	+19.217-.144	-.20	-.014 0	.12	.49	.22	82 Piscium <i>g</i>
270	+20 30 11.33	60.2	+19.225-.142	-.18	+ .006 0	.12	.46	.26	
271	+29 33 31.41	82.6	+19.180-.145	-.20	-.038 0	.05	.34	.10	
272	- 57 23 36.94	84.8	+19.148-.110	-.08	-.069 0	.13	.67	.21	92 G Phœnicis
273	- 2 46 56.13	68.8	+19.180-.135	-.16	-.026 0	.10	.37	.18	34 Ceti
274	+44 48 20.26	59.0	+19.225-.153	-.23	+ .023 0	.12	.46	.26	
275	+ 1 56 35.74	67.5	+19.082-.138	-.16	-.105 0	.08	.35	.17	35 Ceti
276	+79 22 44.11	50.5	+19.242-.225	-.70	+ .062+ 1	.13	.35	.24	
277	-31 19 53.01	80.1	+19.106-.129	-.13	-.073 0	.13	.75	.26	100 G Sculptoris
278	- 7 18 50.23	71.5	+19.158-.136	-.16	-.019 0	.12	.47	.22	36 Ceti
279	-35 44 10.37	75.6	+19.141-.128	-.13	-.026 0	.13	.63	.25	101 G Sculptoris
280	-38 23 11.29	83.7	+19.134-.127	-.12	-.033 0	.10	.54	.17	102 G Sculptoris
281	+24 3 14.29	69.7	+19.122-.147	-.19	-.041 0	.10	.36	.18	$\Sigma$ 99. 10 <sup>m</sup> 8" 227°
282	+ 7 2 47.48	66.9	+19.106-.143	-.17	-.052 0	.05	.20	.10	$\Sigma$ 100. 24" 64°
283	+ 7 2 57.99	74.5	+19.107-.143	-.17	-.050 0	.07	.37	.15	*
284	+15 36 15.53	73.2	+19.142-.145	-.18	-.008 0	.10	.43	.19	87 Piscium
285	- 8 27 37.46	68.4	+19.404-.140	-.15	+ .268 0	.07	.27	.13	37 Ceti *
286	+ 6 27 58.26	62.9	+19.106-.144	-.17	-.026 0	.12	.41	.23	88 Piscium
287	- 1 30 31.79	67.0	+19.345-.142	-.16	+ .219 0	.07	.30	.15	38 Ceti
288	-46 3 56.21	77.4	+19.288-.131	-.10	+ .187- 3	.10	.53	.20	
289	+67 17 22.07	69.5	+19.081-.189	-.35	+ .001 0	.11	.45	.21	
290	- 3 1 36.14	74.0	+19.017-.144	-.15	-.061 0	.08	.36	.15	39 Ceti
291	- 2 48 10.85	63.3	+18.940-.147	-.16	-.129- 1	.08	.28	.15	40 Ceti
292	+77 2 31.02	67.9	+19.158-.227	-.60	+ .092 0	.11	.34	.18	
293	-69 24 20.56	92.6	+19.170-.103	-.05	+ .114- 3	.19	.93	.25	} h 3423. 5"5 355°
294	-69 24 25.73	76.8	+19.171-.104	-.05	+ .116- 3	.09	.50	.19	
295	+ 3 5 16.36	75.2	+19.025-.148	-.17	-.023 0	.06	.26	.11	89 Piscium <i>f</i>
296	- 8 11 14.56	72.0	+19.062-.145	-.15	+ .015 0	.11	.48	.21	41 Ceti
297	-66 55 31.60	74.1	+19.019-.104	-.06	-.003 0	.10	.48	.20	80 G Tucanæ *
298	+57 42 21.48	53.1	+19.022-.181	-.28	+ .005 0	.09	.27	.18	
299	+75 42 53.46	64.8	+18.990-.229	-.55	-.025- 1	.11	.35	.19	
300	+26 44 18.33	79.6	+19.000-.160	-.19	-.012 0	.05	.27	.09	

285  $\Sigma$  App. 8<sup>m</sup>2 50" 331°.297 h 3426. 9<sup>m</sup>3 2" 339°.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h m s</sup>		<sup>s s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
301	Br 170	6.6	1 14 24.226	62.2	+3.9606+.0975	+0.086	+0.0090+ 1	.12	.39	.22
302	Br 175 <i>m</i>	6.7	14 41.475	68.0	+3.0651+.0053	+0.008	+0.0005 0	.10	.44	.21
303	Br 176	5.5	15 35.480	62.0	+3.3064+.0232	+0.012	+0.0018 0	.15	.40	.25
304	$\xi$ Andromedæ	5.1	16 26.999	72.0	+3.5139+.0420	+0.022	+0.0039 0	.09	.28	.14
305	Br 181	6.9	17 27.855	66.5	+3.0656+.0054	+0.008	+0.0008 0	.11	.51	.25
306	Pi 57	6.6	17 27.973	60.8	+3.0851+.0065	+0.008	+0.0034 0	.18	.70	.39
307	Br 179	5.7	17 57.196	61.5	+3.4169+.0319	+0.015	+0.0062 0	.15	.54	.30
308	L 391	7.3	18 28.065	83.2	+2.0119-.0141	+0.025	-0.0081+ 2	.15	.78	.26
309	Pi 68	6.9	18 48.956	85.0	+2.8613-.0052	+0.010	-0.0021 0	.13	.72	.22
310	$\psi$ Cassiopeiæ	5.1	18 51.757	81.9	+4.1805+.1230	+0.122	+0.0139+ 4	.05	.26	.09
311	L 384	6.0	18 51.817	88.2	+2.7966-.0080	+0.012	+0.0002 0	.11	1.00	.25
312	Br 183	6.9	19 0.709	65.8	+3.0153+.0019	+0.008	+0.0107 0	.13	.44	.23
313	$\theta$ Ceti	3.7	19 1.489	70.5	+2.9978+.0018	+0.008	-0.0054 0	.03	.15	.07
314	$\delta$ Cassiopeiæ	2.6	19 16.196	70.3	+3.8882+.0792	+0.057	+0.0400+ 6	.03	.14	.07
315	L 392	5.5	20 15.258	70.3	+2.6603-.0123	+0.015	+0.0010 0	.12	.46	.22
316	L 395	6.7	20 21.386	85.4	+2.6116-.0134	+0.016	-0.0009 0	.14	.78	.24
317	Br 190	5.3	20 42.184	71.0	+2.9506-.0009	+0.009	+0.0028 0	.13	.46	.22
318	$\rho$ Piscium	5.4	20 51.727	63.2	+3.2257+.0164	+0.009	-0.0025 0	.11	.51	.26
319	Br 189	5.7	21 17.513	76.4	+3.2331+.0165	+0.009	+0.0035 0	.10	.33	.15
320	Br 191	6.8	21 20.202	74.8	+3.0678+.0056	+0.008	+0.0029 0	.09	.40	.17
321	$\omega$ Andromedæ	5.1	21 40.188	66.5	+3.5692+.0427	+0.022	+0.0324+ 2	.08	.33	.16
322	Br 192	5.8	21 55.509	65.0	+2.9610-.0001	+0.009	+0.0016 0	.11	.39	.21
323	R Sculptoris	Var.	22 21.911	97.1	+2.7664-.0084	+0.012	.0000 0	.16	1.47	.25
324	Br 194 <i>m</i>	7.6	22 28.233	61.6	+3.1104+.0085	+0.008	-0.0018 0	.12	.52	.28
325	$\alpha$ Ursæ Min	1.9	22 33.27	67.5	+25.222+20.131		+0.138+590	.03	.11	.05
326	Pi 84	7.0	23 1.387	87.5	+3.2205+.0152	+0.009	+0.0073 0	.07	.52	.14
327	Br 188	6.0	23 46.912	75.1	+4.3951+.1460	+0.158	+0.0277+ 5	.06	.30	.12
328	Br 197	6.8	23 49.832	66.2	+3.1270+.0096	+0.008	-0.0022 0	.11	.38	.20
329	$\gamma$ Phœnicis	3.3	24 1.405	70.7	+2.6096-.0125	+0.014	-0.0028- 1	.09	.36	.17
330	Br 196	5.4	24 6.095	78.6	+3.5782+.0450	+0.023	+0.0007 0	.10	.28	.13
331	Br 200	5.2	24 48.323	79.9	+2.8796-.0036	+0.009	+0.0040 0	.08	.42	.15
332	$\mu$ Piscium	5.2	24 56.656	62.3	+3.1394+.0091	+0.008	+0.0194 0	.06	.27	.14
333	Pi 88	7.4	25 9.304	81.4	+4.2864+.1282	+0.126	+0.0194+ 3	.12	.54	.20
334	Pi 99	6.2	25 40.150	84.0	+2.8303-.0054	+0.010	+0.0036 0	.12	.62	.20
335	$\eta$ Piscium	3.8	26 7.864	75.4	+3.2042+.0142	+0.008	+0.0020 0	.03	.16	.06
336	$\delta$ Phœnicis	4.0	27 5.310	70.4	+2.5029-.0138	+0.017	+0.0129- 1	.10	.34	.17
337	Brisb 215	6.0	27 5.901	88.9	+2.7776-.0069	+0.011	+0.0008 0	.13	.90	.23
338	$\chi$ Cassiopeiæ	4.9	27 23.491	60.0	+3.8866+.0758	+0.052	-0.0044- 1	.11	.33	.20
339	L 447	5.7	28 27.673	79.9	+2.6876-.0093	+0.013	-0.0004 0	.12	.68	.24
340	Pi 104	6.1	28 30.076	75.3	+3.4494+.0319	+0.014	+0.0016 0	.09	.46	.19
341	L 450	6.7	28 30.542	85.3	+2.4628-.0135	+0.017	-0.0045 0	.18	.80	.27
342	Pi 110	6.2	29 24.318	82.6	+3.2394+.0162	+0.008	+0.0024 0	.08	.50	.16
343	Br 208	7.7	29 32.727	55.0	+3.1809+.0127	+0.008	-0.0001 0	.13	.46	.29
344	Abd 41	7.5	29 39.451	75.8	+3.0892+.0065	+0.008	+0.0130- 1	.10	.56	.22
345	Br 210	5.8	29 44.686	67.7	+2.9307-.0008	+0.009	+0.0064 0	.13	.44	.23
346	Br 207	6.4	30 20.254	55.6	+3.6462+.0486	+0.025	-0.0004 0	.13	.46	.28
347	Br 211	6.5	30 25.508	62.4	+3.2020+.0139	+0.008	+0.0001 0	.10	.52	.27
348	Pi 120	6.2	30 30.029	63.3	+3.2396+.0157	+0.008	+0.0108 0	.12	.62	.31
349	Br 206	5.6	30 31.008	82.4	+4.7051+.1864	+0.232	-0.0012 0	.04	.30	.09
350	$\nu$ Andromedæ	4.2	1 30 55.475	74.8	+3.5040+.0365	+0.017	-0.0158- 3	.07	.26	.11

302  $\Sigma$  113. 7<sup>M</sup> 7 1'' 5 355°; slow.310  $\Sigma$  117. 11<sup>M</sup> 3'' 42°; 12<sup>M</sup>-13<sup>M</sup> 27'' 108°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
301	+64 8 1.65	54.4	+18.986-.193	-.33	-.014 0	.11	.35	.22	35 Cassiopeia
302	- 1 2 2.61	65.6	+18.983-.151	-.16	-.009 0	.08	.32	.17	42 Ceti *
303	+28 12 56.38	62.8	+18.890-.164	-.20	-.076 0	.12	.41	.23	91 Piscium l
304	+45 0 17.06	65.2	+18.946-.176	-.24	+.004 0	.08	.25	.14	
305	- 0 58 21.49	65.8	+18.901-.156	-.16	-.012 0	.08	.38	.19	43 Ceti
306	+ 1 12 15.31	56.8	+18.865-.157	-.16	-.047 0	.15	.69	.40	
307	+37 11 34.84	56.4	+18.884-.174	-.22	-.014 0	.14	.51	.31	47 Andromedæ
308	-66 54 25.94	80.4	+18.868-.106	-.05	-.015 0	.12	.60	.22	81 G Tucanæ
309	-24 52 31.40	86.3	+18.866-.149	-.13	-.007 0	.11	.61	.18	9 <sup>m</sup> 2'' 7 80°
310	+67 36 29.30	76.3	+18.906-.214	-.39	+.034- 1	.05	.21	.09	*
311	-31 28 0.44	83.7	+18.817-.146	-.12	-.055 0	.11	.77	.23	109 G Sculptoris
312	- 8 31 39.40	67.7	+18.800-.157	-.15	-.067 0	.11	.41	.20	44 Ceti
313	- 8 41 57.79	69.3	+18.654-.155	-.15	-.213 0	.03	.15	.07	Also $\theta^1$ Ceti
314	+59 42 56.03	63.2	+18.814-.202	-.31	-.046- 2	.04	.16	.09	
315	-42 0 46.32	71.2	+18.799-.141	-.11	-.031 0	.11	.43	.20	103 G Phœnicis
316	-45 2 57.41	81.5	+18.805-.139	-.10	-.022 0	.11	.58	.20	104 G Phœnicis
317	-15 7 8.31	68.0	+18.807-.156	-.14	-.010 0	.10	.32	.17	46 Ceti
318	+18 39 6.94	63.3	+18.832-.170	-.19	+.020 0	.09	.40	.21	
319	+18 43 20.06	74.8	+18.742-.172	-.19	-.057 0	.09	.32	.14	94 Piscium
320	- 0 55 6.97	73.7	+18.776-.163	-.16	-.022 0	.08	.41	.17	
321	+44 53 25.88	61.4	+18.691-.191	-.24	-.096- 2	.08	.29	.16	$\beta$ 999. 12 <sup>m</sup> 2'' 6 96°
322	-13 34 35.11	73.4	+18.784-.159	-.14	+.004 0	.09	.33	.15	47 Ceti
323	-33 3 42.82	91.7	+18.688-.150	-.12	-.078 0	.19	1.37	.32	5 <sup>m</sup> 7 to 8 <sup>m</sup> 0
324	+ 4 50 13.96	62.0	+18.624-.168	-.17	-.139 0	.11	.51	.27	95 Piscium *
325	+88 46 26.49	67.8	+18.761-.1311		+.001- 7	.02	.08	.04	Polaris *
326	+16 33 42.43	86.0	+18.712-.175	-.18	-.034 0	.07	.47	.13	
327	+69 45 0.28	70.3	+18.656-.238	-.43	-.066- 2	.06	.26	.12	38 Cassiopeia
328	+ 6 46 40.41	63.4	+18.670-.171	-.17	-.051 0	.11	.38	.21	96 Piscium
329	-43 49 50.14	72.2	+18.496-.144	-.10	-.219 0	.08	.33	.15	
330	+46 29 28.79	74.4	+18.668-.195	-.25	-.044 0	.10	.28	.14	49 Andromedæ A
331	-22 8 47.84	84.8	+18.692-.160	-.13	+.002 0	.08	.51	.15	48 Ceti
332	+ 5 37 42.01	60.6	+18.642-.174	-.17	-.044- 1	.05	.21	.11	
333	+67 53 42.44	78.7	+18.625-.236	-.41	-.054- 1	.10	.41	.16	
334	-26 43 27.17	84.6	+18.673-.159	-.12	+.011 0	.11	.50	.17	116 G Sculptoris *
335	+14 49 48.99	72.5	+18.638-.179	-.18	-.010 0	.03	.16	.07	$\beta$ 506. 11 <sup>m</sup> 1'' 15°
336	-49 35 32.58	78.0	+18.766-.144	-.09	+.149- 1	.09	.38	.15	
337	-30 47 47.35	85.4	+18.548-.158	-.12	-.068 0	.11	.69	.20	118 G Sculptoris
338	+58 43 7.97	51.0	+18.591-.219	-.31	-.016 0	.09	.29	.19	
339	-37 22 43.25	78.3	+18.541-.155	-.11	-.031 0	.12	.56	.22	119 G Sculptoris
340	+36 43 28.11	71.6	+18.555-.197	-.22	-.016 0	.08	.37	.16	
341	-50 14 22.82	79.2	+18.484-.143	-.09	-.086 0	.14	.58	.23	112 G Phœnicis
342	+17 56 59.13	82.9	+18.460-.188	-.19	-.081 0	.07	.47	.15	
343	+12 2 47.67	53.2	+18.526-.184	-.17	-.010 0	.11	.40	.25	100 Piscium *
344	+ 0 26 23.87	71.7	+18.274-.180	-.16	-.258- 1	.09	.42	.18	
345	-16 11 19.46	70.4	+18.539-.171	-.14	+.010 0	.11	.44	.21	49 Ceti
346	+48 12 43.62	61.5	+18.497-.212	-.26	-.013 0	.10	.45	.24	
347	+14 9 0.41	61.1	+18.496-.187	-.18	-.011 0	.09	.44	.23	101 Piscium
348	+16 55 18.92	61.9	+18.527-.190	-.18	+.023- 1	.11	.59	.30	
349	+72 31 49.37	76.4	+18.498-.272	-.52	-.006 0	.05	.22	.09	40 Cassiopeia
350	+40 54 19.05	69.9	+18.112-.204	-.24	-.378+ 1	.06	.23	.11	

324  $\beta$  1164. 8<sup>m</sup> 2-8<sup>m</sup> 5 0'' 4 164°.334  $\beta$  1230. 11<sup>m</sup> 6 2'' 8 224°.325  $\Sigma$  93. 9<sup>m</sup> 5 18'' 215°.343  $\Sigma$  136. 8<sup>m</sup> 7 16'' 79°.



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		M	h m s		s s	s	s	"	"	"
351	Br 213	5.7	1 31 6.351	77.6	+2.9264-.0005	+0.008	+0.0016 0	.09	.45	.17
352	L 465	6.9	31 28.494	93.5	+2.6269-.0100	+0.013	-.0025 0	.16	1.23	.26
353	L 468	6.4	31 30.098	90.2	+2.2539-.0143	+0.019	+0.0343- 5	.15	.92	.24
354	$\tau$ Sculptoris <i>m</i>	5.9	31 31.185	84.6	+2.7733-.0064	+0.011	+0.0061 0	.13	.90	.26
355	Radcl 481	5.9	31 35.121	80.3	+3.8872+.0722	+0.046	-.0003 0	.10	.57	.20
356	$\pi$ Piscium	5.8	31 47.742	73.4	+3.1745+.0125	+0.008	-.0051 0	.06	.27	.12
357	$\nu$ Persei	3.8	31 51.039	70.4	+3.6600+.0486	+0.024	+0.0061 0	.04	.18	.08
358	L 505	6.3	32 59.023	80.2	+0.3428+.1158	-.265	-.0128- 2	.07	.64	.21
359	L 479	6.4	33 4.936	81.8	+2.2018-.0127	+0.018	+0.0006 0	.16	.80	.28
360	$\chi$ Andromedæ	5.2	33 20.943	68.8	+3.5798+.0414	+0.019	-.0016 0	.12	.48	.23
361	Br 219	7.1	33 51.775	62.7	+3.2259+.0152	+0.008	-.0002 0	.15	.51	.28
362	Br 220	7.0	33 53.819	64.4	+3.2091+.0138	+0.008	+0.0062 0	.11	.44	.23
363	$\alpha$ Eridani	0.3	33 59.463	67.7	+2.2391-.0130	+0.018	+0.0111- 2	.05	.26	.12
364	L 476	6.2	34 0.961	86.2	+2.6685-.0086	+0.012	-.0017 0	.11	.66	.19
365	Paris 2056	5.8	34 5.027	95.8	+2.8656-.0027	+0.009	+0.0064 0	.12	.99	.19
366	Pi 140	6.8	34 8.445	83.5	+2.8193-.0042	+0.009	+0.0019 0	.11	.66	.21
367	Br 223	6.4	34 16.990	70.6	+3.2296+.0151	+0.008	+0.0050 0	.09	.33	.16
368	Groomb 360	5.9	34 39.746	87.7	+3.5812+.0401	+0.018	+0.0122+ 1	.13	.51	.17
369	$\tau$ Andromedæ	5.0	34 40.444	71.8	+3.5249+.0362	+0.016	+0.0012 0	.09	.36	.16
370	$\omega$ Cassiopeiæ	5.7	34 55.704	82.3	+4.3830+.1286	+0.118	+0.0097+ 2	.05	.32	.10
371	Br 215	5.4	35 10.024	65.3	+4.5777+.1555	+0.159	+0.0146+ 3	.11	.50	.25
372	Pi 142	5.3	35 41.610	63.3	+3.6347+.0400	+0.017	+0.0725+ 5	.09	.34	.18
373	Pi 145	6.4	35 43.597	77.1	+3.3373+.0216	+0.009	+0.0094 0	.13	.81	.30
374	Pi 139	7.5	35 51.113	71.7	+4.0145+.0826	+0.054	+0.0004 0	.13	.60	.26
375	Br 225	6.2	35 59.974	74.5	+3.3794+.0251	+0.010	-.0010 0	.12	.42	.19
376	L 495 <sup>1</sup>	6.2	36 0.014	80.7	+2.2788-.0131	+0.017	+0.0341- 5	.16	.72	.27
377	L 495 <sup>2</sup>	6.2	36 0.634	88.5	+2.2778-.0129	+0.017	+0.0331- 4	.15	.72	.22
378	$\nu$ Piscium	4.7	36 13.579	75.0	+3.1184+.0091	+0.007	-.0014 0	.03	.20	.08
379	Åbo 45	5.7	36 16.500	70.7	+3.4538+.0301	+0.012	+0.0035 0	.10	.57	.25
380	Br 224	5.9	36 33.355	70.2	+4.0240+.0829	+0.054	+0.0032 0	.10	.51	.23
381	Dpt 139	6.3	36 48.584	86.4	+2.9604+.0012	+0.008	+0.0027- 1	.11	.51	.16
382	Br 229	5.5	37 3.986	63.0	+3.2488+.0171	+0.008	-.0210- 3	.09	.27	.15
383	L 496	6.4	37 3.992	83.9	+2.6373-.0087	+0.012	+0.0041 0	.13	.69	.22
384	$\phi$ Persei	4.2	37 23.346	75.5	+3.7362+.0532	+0.026	+0.0029 0	.04	.18	.07
385	$\pi$ Sculptoris	5.4	37 37.802	87.6	+2.7113-.0065	+0.011	-.0047 0	.12	.75	.20
386	L 501	5.9	37 38.523	88.2	+2.6473-.0081	+0.012	-.0037 0	.10	.60	.16
387	Pulk <sub>88</sub> 245	5.4	37 40.118	92.1	+3.0330+.0048	+0.007	+0.0012 0	.13	.75	.18
388	L 502	7.1	37 41.786	85.3	+2.3974-.0115	+0.016	-.0035 0	.16	1.10	.32
389	L 507	5.8	38 22.517	83.0	+2.0554-.0096	+0.016	-.0013 0	.16	.81	.27
390	L 506	5.7	38 38.097	87.8	+2.3131-.0121	+0.016	+0.0151- 3	.18	.92	.27
391	$\tau$ Ceti	3.5	39 25.358	75.7	+2.7868+.0009	+0.008	-.1195+ 6	.04	.22	.09
392	Br 231	6.6	39 27.977	57.8	+3.2690+.0175	+0.008	-.0033 0	.13	.42	.26
393	$\sigma$ Piscium	4.4	40 6.707	74.1	+3.1630+.0112	+0.007	+0.0046 0	.03	.18	.07
394	Pi 159	5.8	40 30.598	81.0	+4.2911+.1023	+0.073	+0.0875+12	.07	.44	.15
395	L 576	6.1	40 33.84	74.8	-1.830+.533		+0.069-24	.08	.69	.26
396	$\epsilon$ Sculptoris	5.5	40 57.751	81.9	+2.8115-.0038	+0.009	+0.0116- 1	.07	.38	.12
397	Pi 167	5.7	40 58.068	84.4	+3.0082+.0040	+0.007	-.0019 0	.08	.62	.17
398	Br 234	6.9	41 9.524	68.2	+3.2495+.0160	+0.007	+0.0036 0	.10	.39	.19
399	L 551	6.5	41 17.456	85.2	-0.0368+.1599	-.388	+0.0215- 9	.13	.64	.21
400	L 520	5.6	1 42 10.732	91.3	+2.3542-.0107	+0.015	+0.0016 0	.13	.75	.19

361  $\beta$  5. 9<sup>M</sup> 1'' 2 291°.380  $\beta$  1103. 12<sup>M</sup> 1'' 7 4°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100\Delta\mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 810			Remarks.
	" ' "		" "	"	"	"	"	"	
351	-15 54 42.32	77.2	+18.501-.173	-.13	+.017 0	.09	.40	.16	50 Ceti
352	-40 27 24.38	90.1	+18.403-.157	-.10	-.068 0	.16	1.06	.26	114 G Phœnicis
353	-58 38 59.70	83.5	+18.441-.137	-.07	-.029- 2	.12	.58	.20	12 G Hydri
354	-30 25 10.22	77.4	+18.505-.165	-.11	+.035 0	.12	.63	.24	h 3447. 6 <sup>m</sup> 2-7 <sup>m</sup> 4 2'' 93°
355	+57 28 4.97	79.2	+18.463-.228	-.31	-.004 0	.10	.55	.20	
356	+11 37 48.13	66.9	+18.497-.188	-.17	+.037 0	.06	.22	.11	
357	+48 7 17.80	71.9	+18.346-.216	-.26	-.112 0	.03	.16	.07	51 Andromedæ
358	-79 0 44.44	81.3	+18.301-.027	-.11	-.118+ 1	.06	.59	.18	14 G Hydri
359	-58 46 51.27	78.4	+18.417-.134	-.07	+.001 0	.13	.60	.23	13 G Hydri
360	+43 52 38.72	62.2	+18.416-.214	-.24	+.009 0	.11	.34	.20	
361	+16 7 4.24	65.6	+18.358-.195	-.18	-.031 0	.10	.47	.23	103 Piscium *
362	+13 46 40.67	62.2	+18.351-.195	-.18	-.037 0	.13	.51	.28	104 Piscium
363	-57 44 40.97	70.9	+18.355-.139	-.07	-.029- 1	.05	.26	.12	<i>Achernar</i>
364	-37 2 0.42	83.6	+18.248-.163	-.11	-.136 0	.10	.59	.18	122 G Sculptoris
365	-21 47 5.12	94.2	+18.419-.175	-.13	+.038 0	.15	1.02	.22	
366	-25 31 50.54	84.6	+18.387-.172	-.12	+.008 0	.10	.56	.17	L 145; 123 G Sculpt.
367	+15 53 54.49	65.2	+18.361-.196	-.18	-.013 0	.07	.25	.13	105 Piscium
368	+42 47 30.45	82.8	+18.323-.218	-.24	-.038- 1	.12	.41	.16	
369	+40 4 14.25	68.4	+18.336-.214	-.24	-.025 0	.08	.34	.16	
370	+67 32 14.26	78.1	+18.350-.266	-.43	-.002- 1	.05	.26	.10	Or 43 Cassiopeiaë
371	+70 7 2.66	55.8	+18.336-.278	-.48	-.007- 1	.10	.40	.24	42 Cassiopeiaë
372	+42 6 42.48	59.6	+18.182-.227	-.24	-.142- 4	.08	.31	.18	
373	+25 14 26.38	77.5	+18.280-.206	-.20	-.043 0	.09	.55	.20	Σ 145. 11 <sup>m</sup> 11'' 32°
374	+60 2 34.81	58.4	+18.312-.245	-.34	-.007 0	.11	.38	.22	
375	+29 32 29.33	79.0	+18.311-.208	-.21	-.003 0	.11	.42	.17	
376	-56 42 10.71	77.0	+18.283-.145	-.07	-.031- 2	.12	.57	.22	} 3 G and 4 G Eridani p. See Appendix
377	-56 42 4.91	87.2	+18.388-.145	-.07	+.075- 2	.13	.69	.20	
378	+4 58 53.64	73.2	+18.307-.193	-.16	+.001 0	.03	.18	.07	51 Ceti
379	+34 44 27.23	69.7	+18.273-.213	-.22	-.031 0	.08	.45	.20	
380	+60 2 49.42	56.3	+18.281-.248	-.34	-.013 0	.09	.31	.19	44 Cassiopeiaë *
381	-11 49 7.26	79.6	+17.875-.185	-.14	-.410 0	.10	.41	.16	Σ 147. 7 <sup>m</sup> 9 3'' 5 88°
382	+19 46 56.52	61.6	+17.604-.201	-.19	-.672+ 1	.08	.28	.16	107 Piscium
383	-38 38 24.18	80.2	+18.317-.166	-.10	+.041 0	.12	.56	.21	127 G Sculptoris
384	+50 11 5.92	75.8	+18.246-.233	-.28	-.018 0	.04	.18	.07	54 Andromedæ
385	-32 49 52.39	81.4	+18.225-.171	-.11	-.030 0	.12	.63	.22	
386	-37 20 12.16	84.9	+18.236-.167	-.11	-.019 0	.10	.51	.16	129 G Sculptoris
387	-4 11 37.64	88.0	+18.232-.191	-.15	-.022 0	.12	.59	.18	
388	-50 32 36.02	80.1	+18.238-.152	-.08	-.015 0	.12	.65	.23	119 G Phœnicis
389	-61 17 34.30	81.2	+18.197-.132	-.06	-.031 0	.13	.67	.23	15 G Hydri
390	-54 14 31.59	81.4	+18.133-.149	-.07	-.086- 1	.15	.61	.23	5 G Eridani q <sup>1</sup>
391	-16 27 50.72	74.3	+19.046-.170	-.13	+.856+ 8	.05	.25	.10	Parallax ''31
392	+19 35 1.72	57.3	+18.088-.208	-.19	-.100 0	.12	.42	.25	109 Piscium
393	+8 39 16.09	74.0	+18.215-.203	-.17	+.051 0	.03	.17	.07	
394	+63 21 32.58	78.6	+17.915-.279	-.38	-.235- 6	.07	.34	.13	
395	-83 29 2.12	77.1	+18.286+.101		+.138- 4	.08	.67	.23	3 G Octantis
396	-25 33 8.60	81.1	+18.076-.183	-.12	-.057- 1	.07	.40	.13	h 3461. 9 <sup>m</sup> 2 4'' 7 57°
397	-6 14 0.91	79.1	+18.105-.195	-.15	-.028 0	.08	.47	.16	
398	+16 54 43.06	61.7	+18.137-.210	-.18	+.011 0	.10	.35	.20	3 Arietis
399	-79 39 7.98	85.3	+18.142-.006	-.17	+.021- 1	.11	.55	.18	17 G Hydri τ <sup>1</sup>
400	-51 18 58.43	84.5	+18.068-.156	-.08	-.019 0	.10	.48	.16	120 G Phœnicis

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
		M	h m s		s s	s	s	a Ep.	100 $\mu$	a 10
401	L 523	5.3	42 17.557	82.7	+2.2911-.0109	+0.015	+0.0135-1	.12	.70	.23
402	Pi 170	6.3	42 44.633	76.8	+3.5254+.0334	+0.013	+0.0093 0	.09	.51	.19
403	Br 235	5.9	42 45.383	68.0	+3.2468+.0157	+0.007	+0.0033 0	.09	.34	.17
404	Br 236	7.8	42 55.736	75.7	+3.2425+.0157	+0.007	-.0020 0	.13	.68	.27
405	Pi 171	6.0	42 57.701	75.1	+3.4238+.0278	+0.010	-.0138 0	.16	.72	.30
406	L 634	5.8	43 8.09	81.0	-3.942+.1172		+0.019-8	.05	.45	.14
407	L 526	6.7	43 25.864	87.7	+2.6232-.0075	+0.011	+0.0007 0	.11	.58	.17
408	Pi 182	7.0	44 28.648	79.0	+2.9467+.0021	+0.007	-.0092 0	.13	.57	.22
409	Pi 176	6.2	44 32.734	77.0	+3.8156+.0564	+0.027	+0.0047 0	.10	.44	.17
410	Pi 179 N*	6.4	44 36.931	62.0	+3.3067+.0192	+0.008	-.0010 0	.11	.62	.32
411	$\chi$ Ceti	4.8	44 40.373	69.2	+2.9450+.0022	+0.007	-.0108 0	.07	.28	.14
412	Br 237	5.7	45 25.072	76.1	+3.9127+.0650	+0.034	+0.0039 0	.10	.34	.15
413	L 536	6.6	45 29.913	84.2	+2.5922-.0074	+0.011	-.0010+1	.13	.63	.21
414	Br 243	6.1	45 33.506	75.0	+3.1783+.0123	+0.007	-.0047 0	.06	.28	.12
415	Br 238	5.9	45 47.540	77.8	+3.7918+.0540	+0.024	+0.0025 0	.10	.30	.14
416	$\zeta$ Ceti	3.8	46 31.453	76.7	+2.9602+.0024	+0.007	+0.0025 0	.04	.21	.08
417	L 547	6.3	47 1.691	81.6	+2.3319-.0095	+0.014	-.0053 0	.15	.72	.25
418	L 543	6.9	47 10.532	83.5	+2.5627-.0078	+0.011	+0.0018 0	.15	.81	.26
419	$\epsilon$ Cassiopeiae	3.4	47 11.753	71.8	+4.2697+.1003	+0.068	+0.0057+1	.03	.15	.07
420	Br 244	5.7	47 17.328	78.0	+3.5826+.0369	+0.014	.0000 0	.11	.34	.16
421	$\alpha$ Trianguli	3.4	47 22.739	78.9	+3.4094+.0248	+0.009	+0.0013-1	.04	.21	.08
422	$\gamma$ Arietis N*	4.9	48 2.459	65.3	+3.2844+.0172	+0.007	+0.0054 0	.07	.24	.13
423	$\gamma$ Arietis S*	4.7	48 2.490	70.4	+3.2847+.0173	+0.007	+0.0057 0	.07	.27	.12
424	Paris 2348	5.9	48 3.577	96.4	+2.8829-.0002	+0.008	+0.0010 0	.13	1.11	.20
425	$\omega$ Cassiopeiae	5.2	48 13.515	63.7	+4.5934+.1387	+0.120	+0.0016 0	.11	.52	.27
426	$\xi$ Piscium	4.8	48 22.655	79.1	+3.1025+.0084	+0.007	+0.0015 0	.04	.26	.09
427	L 555	6.3	49 4.946	85.7	+2.5874-.0074	+0.011	+0.0125-1	.13	.70	.22
428	$\beta$ Arietis	2.7	49 6.853	74.8	+3.3060+.0183	+0.007	+0.0068 0	.02	.15	.06
429	$\psi$ Phoenicis	4.3	49 38.273	79.1	+2.4084-.0088	+0.012	-.0090 0	.12	.68	.24
430	Br 253	6.2	49 59.308	71.6	+3.5334+.0327	+0.012	-.0003 0	.10	.45	.20
431	L 577	Var.	50 2.833	78.8	+1.5109+.0089	-.005	+0.0008 0	.16	.68	.27
432	Br 255	6.0	50 12.734	73.0	+3.5492+.0329	+0.012	+0.0150+1	.09	.40	.17
433	$\phi$ Phoenicis	5.3	50 13.096	82.1	+2.4923-.0080	+0.012	-.0038 0	.10	.50	.17
434	Br 257	6.1	50 16.288	62.8	+3.3365+.0203	+0.008	+0.0005 0	.13	.50	.27
435	Pi 209 m	6.3	50 43.590	66.0	+3.0975+.0079	+0.006	+0.0105 0	.13	.51	.26
436	$\iota$ Arietis	5.3	51 53.132	62.7	+3.2700+.0164	+0.007	+0.0021 0	.09	.38	.20
437	Br 267	5.3	51 59.241	78.0	+2.8109-.0020	+0.008	+0.0051 0	.10	.40	.16
438	$\chi$ Eridani	3.7	52 4.005	75.6	+2.3383-.0097	+0.013	+0.0726-6	.11	.48	.20
439	Br 261	6.0	52 12.087	79.9	+3.7898+.0510	+0.021	+0.0017 0	.10	.33	.14
440	Radcl 569	5.4	52 15.190	83.7	+4.3765+.1071	+0.073	+0.0073 0	.10	.62	.19
441	$\lambda$ Arietis	4.9	52 21.251	66.0	+3.3340+.0203	+0.007	-.0068 0	.08	.30	.15
442	L 594	4.8	52 23.983	80.2	+1.5142+.0093	-.006	+0.0110 0	.13	.58	.22
443	Groomb 410 m	7.0	52 52.357	80.0	+5.4394+.2560	+0.328	+0.0059+1	.10	.50	.18
444	Br 268	6.7	52 54.410	78.0	+3.0473+.0062	+0.006	+0.0031 0	.10	.42	.17
445	L 585	4.8	53 12.282	84.0	+2.3820-.0084	+0.012	+0.0103-1	.16	.80	.26
446	Br 258 m	4.6	53 44.085	73.7	+4.8495+.1658	+0.156	-.0121-3	.08	.34	.15
447	Pi 223	6.3	54 4.562	74.1	+3.2057+.0132	+0.006	-.0001 0	.09	.50	.20
448	Yarn 946	6.7	54 44.505	91.1	+2.7509-.0030	+0.008	+0.0043 0	.15	.98	.24
449	Br 260	4.0	54 53.211	70.6	+5.0333+.1894	+0.193	-.0083-2	.03	.16	.07
450	Br 271	6.1	54 56.994	68.8	+3.1172+.0084	+0.006	+0.0155-1	.08	.26	.13

410  $\Sigma$  174.  $7^M 6 2' 8 165^\circ$ .435  $\Sigma$  186.  $7^M 1-7^M 1, < 2''0$ ; binary, 150 yrs.  $\pm$ .431  $6^M 6$  to  $7^M 4$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
401	-54 1 26.86	80.7	+18.144-.153	-.07	+.061- 1	.10	.51	.18	6 G Eridani $q^2$
402	+37 27 18.08	71.3	+18.040-.231	-.23	-.026- 1	.08	.37	.16	
403	+16 27 27.55	68.0	+18.040-.213	-.18	-.025 0	.09	.38	.18	4 Arietis
404	+16 31 21.89	72.4	+18.113-.213	-.18	+.054 0	.11	.59	.25	
405	+32 11 0.66	70.8	+18.366-.224	-.21	+.308+ 1	.14	.60	.27	
406	-85 16 29.20	81.8	+18.080+.241		+.029- 1	.05	.45	.14	4 G Octantis
407	-37 39 31.78	84.6	+18.055-.174	-.10	+.015 0	.12	.57	.19	2 G Fornacis
408	-11 11 54.16	79.1	+17.911-.196	-.14	-.089+ 1	.12	.54	.21	
409	+51 26 24.99	70.0	+17.884-.253	-.28	-.113 0	.09	.33	.16	
410	+21 46 43.40	57.3	+17.983-.220	-.19	-.011 0	.10	.47	.27	1 Arietis *
411	-11 10 51.40	69.4	+17.913-.197	-.14	-.079+ 1	.07	.26	.13	
412	+54 39 8.03	67.8	+17.954-.261	-.30	-.009 0	.09	.25	.14	1 Persei
413	-38 54 25.77	85.4	+18.232-.175	-.10	+.272 0	.14	.64	.21	4 G Fornacis
414	+10 32 53.45	72.4	+17.931-.213	-.17	-.027 0	.06	.26	.12	54 Ceti
415	+50 17 54.63	71.3	+17.920-.254	-.28	-.029 0	.09	.25	.13	2 Persei g
416	-10 49 44.68	78.4	+17.888-.201	-.14	-.032 0	.05	.27	.10	
417	-50 42 4.49	80.8	+17.889-.160	-.08	-.011 0	.12	.65	.22	124 G Phœnicis
418	-40 19 47.92	82.4	+17.869-.176	-.10	-.025 0	.12	.64	.21	125 G Phœnicis
419	+63 10 39.51	65.5	+17.877-.289	-.39	-.017 0	.04	.16	.08	
420	+40 14 10.39	72.9	+17.881-.243	-.24	-.009 0	.10	.30	.15	55 Andromedæ
421	+29 5 30.08	73.9	+17.654-.232	-.21	-.232 0	.04	.23	.09	
422	+18 48 20.90	67.0	+17.745-.225	-.19	-.115 0	.06	.24	.12	} $\Sigma$ 180. 8'' <sub>3</sub> 359°
423	+18 48 12.19	64.4	+17.752-.225	-.19	-.108 0	.06	.26	.14	
424	-17 25 16.99	91.2	+17.794-.199	-.13	-.066 0	.13	1.05	.24	
425	+68 11 38.72	55.6	+17.849-.312	-.47	-.004 0	.08	.33	.20	Or 46 Cassiopeiæ
426	+ 2 41 38.11	78.1	+17.872-.214	-.16	+.025 0	.04	.27	.10	
427	-39 5 17.29	83.1	+17.844-.181	-.10	+.025- 1	.13	.60	.21	6 G Fornacis
428	+20 19 9.16	72.8	+17.706-.229	-.19	-.111 0	.03	.15	.06	
429	-46 47 32.86	76.9	+17.704-.169	-.08	-.092+ 1	.09	.49	.19	
430	+36 47 14.85	64.4	+17.785-.245	-.23	+.003 0	.09	.35	.18	
431	-68 26 12.85	73.5	+17.773-.110	-.04	-.007 0	.12	.49	.22	19 G Hydri $\eta^1$ *
432	+36 45 40.43	66.8	+17.784-.248	-.23	+.011- 1	.08	.34	.17	56 Andromedæ
433	-42 59 15.34	77.6	+17.740-.175	-.09	-.032 0	.09	.42	.16	
434	+23 5 13.56	64.5	+17.763-.233	-.20	-.008 0	.10	.39	.20	7 Arietis
435	+ 1 21 15.00	64.0	+17.934-.218	-.16	+.182- 1	.10	.41	.21	*
436	+17 19 45.47	56.1	+17.679-.231	-.18	-.026 0	.07	.28	.17	
437	-23 0 54.60	79.8	+17.674-.200	-.12	-.027 0	.10	.35	.15	56 Ceti
438	-52 6 23.91	80.3	+17.983-.172	-.07	+.285- 5	.10	.49	.18	h 3473. 12 <sup>m</sup> 6'' 197°
439	+48 42 55.66	72.5	+17.730-.267	-.28	+.038 0	.09	.28	.14	3 Persei
440	+64 8 6.13	80.7	+17.681-.308	-.41	-.009 0	.10	.56	.19	B A C 588
441	+23 6 30.03	60.8	+17.668-.236	-.20	-.018 0	.06	.23	.13	*
442	-68 8 20.84	79.8	+17.777-.112	-.04	+.093- 1	.11	.53	.19	21 G Hydri $\eta^2$
443	+75 1 2.23	76.4	+17.652-.383	-.74	-.012 0	.08	.35	.14	*
444	- 2 32 50.34	74.6	+17.686-.218	-.15	+.023 0	.09	.37	.16	58 Ceti *
445	-47 52 25.22	78.0	+17.662-.173	-.08	+.011- 1	.13	.56	.22	128 G Phœnicis
446	+70 25 19.74	65.4	+17.634-.343	-.55	+.006+ 1	.08	.25	.14	48 Cassiopeiæ A *
447	+11 48 35.25	75.0	+17.579-.231	-.17	-.035 0	.08	.46	.18	
448	-26 55 6.48	89.9	+17.621-.200	-.11	+.035 0	.16	1.05	.26	10 G Fornacis
449	+71 56 14.85	74.9	+17.603-.360	-.61	+.023+ 1	.03	.18	.07	50 Cassiopeiæ
450	+ 2 37 7.63	65.7	+17.334-.227	-.16	-.244- 1	.08	.28	.15	112 Piscium

441 W.H.  $7^m 37'' 46^\circ$ ; slow.  
444  $\beta$  7.  $11^m 3'' 11^\circ$ .

443  $\Sigma$  185.  $8^m 5 1'' 4 27^\circ$ ; binary.  
446  $\beta$  513.  $4^m 7-7^m 2 1'' \pm$ ; rather rapid binary.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>dt</sup>	$\mu$ and 100 $\Delta\mu$			Prob. Errors.		
			$\alpha$ Ep.	100 $\mu$	$\alpha$ 10									
		M	h	m	s		s	s	s		"	"	"	
451	Br 272	5.8	1	55	3.919	74.6	+2.8216— .0011	+ .007	+ .0001	0	.13	.45	.21	
452	Br 254	5.5		55	5.759	65.2	+5.8540+ .3192	+ .458	+ .0387+ 11		.11	.48	.24	
453	$\nu$ Ceti	4.1		55	17.612	79.6	+2.8270— .0012	+ .008	+ .0093	0	.06	.30	.11	
454	Br 265	6.0		55	25.215	65.0	+4.4202+ .1093	+ .073	+ .0006	0	.13	.50	.26	
455	Paris 2509	5.9		55	29.013	94.8	+2.9758+ .0035	+ .006	+ .0058	0	.12	.78	.17	
456	L 599	5.6		55	31.533	90.5	+2.4751— .0072	+ .011	— .0055	0	.12	.69	.18	
457	Br 266	5.8		55	35.732	78.2	+4.3925+ .1060	+ .069	+ .0014	0	.09	.39	.15	
458	$\alpha$ Hydri	2.9		55	37.093	67.8	+1.8901— .0034	+ .008	+ .0355— 5		.08	.38	.18	
459	Br 269	5.1		55	38.322	68.4	+3.9664+ .0639	+ .030	+ .0047	0	.10	.38	.19	
460	Br 259	5.5		55	57.598	68.6	+5.5994+ .2758	+ .350	— .0020— 2		.11	.42	.21	
461	$\sigma$ Hydri	6.4		56	0.639	82.9	— 0.1827+ .1578	— .340	+ .0287— 8		.10	.78	.23	
462	$\pi$ Fornacis	5.5		56	46.887	85.0	+2.6808— .0040	+ .008	— .0078	0	.12	.72	.21	
463	$\alpha^2$ Piscium	4.2		56	52.336	67.3	+3.1011+ .0084	+ .006	+ .0028	0	.05	.24	.11	
464	Br 264	7.7		56	54.391	66.3	+5.3636+ .2343	+ .272	.0000	0	.13	.51	.26	
465	L 616	6.3		57	3.626	82.3	+1.5690+ .0069	— .002	+ .0029	0	.16	.80	.28	
466	$\epsilon$ Trianguli	5.7		57	7.248	72.8	+3.4923+ .0286	+ .009	— .0013	0	.11	.52	.22	
467	$\chi$ Phœnicis	5.1		57	41.875	71.7	+2.4083— .0072	+ .011	— .0030	0	.13	.62	.27	
468	$\gamma^1$ Andromedæ	2.1		57	45.496	74.2	+3.6649+ .0394	+ .013	+ .0042	0	.03	.13	.06	
469	$\gamma^2$ Andromedæ <i>m</i>	6.0		57	46.338	77.0	+3.6649+ .0394	+ .013	+ .0041	0	.07	.48	.17	
470	Br 278	5.9		57	58.683	64.0	+3.3957+ .0223	+ .007	+ .0102	0	.14	.54	.28	
471	Br 280	5.7		58	3.906	66.7	+3.0736+ .0073	+ .006	+ .0053	0	.12	.45	.23	
472	Pi 243	6.6		58	13.417	72.4	+3.2829+ .0168	+ .006	— .0007	0	.09	.51	.21	
473	Br 281	6.2	1	58	40.989	82.8	+3.0682+ .0071	+ .006	+ .0053	0	.08	.42	.14	
474	$\nu$ Fornacis	4.8	2	0	0.524	82.4	+2.6909— .0035	+ .008	+ .0009	0	.10	.64	.21	
475	Br 274	6.8		0	29.752	69.2	+5.0936+ .1797	+ .165	+ .0642+ 8		.08	.32	.15	
476	$\kappa$ Arietis	5.3		0	58.084	76.4	+3.3477+ .0198	+ .006	+ .0011	0	.10	.32	.14	
477	$\alpha$ Arietis	2.0		1	32.058	66.9	+3.3728+ .0204	+ .007	+ .0137	0	.02	.11	.05	
478	Br 283	6.0		1	41.372	81.5	+4.1526+ .0771	+ .038	— .0006	0	.10	.44	.16	
479	L 631	7.8		2	4.389	93.0	+2.5033— .0058	+ .010	+ .0008	0	.13	1.38	.27	
480	Br 288	4.8		2	26.989	66.9	+3.6051+ .0337	+ .010	+ .0127+ 1		.14	.57	.28	
481	Pi 256	6.6		3	24.938	76.1	+3.9986+ .0623	+ .026	+ .0044	0	.13	.64	.26	
482	$\beta$ Trianguli	3.0		3	35.443	76.3	+3.5566+ .0305	+ .008	+ .0123	0	.04	.18	.07	
483	Br 291	5.1		3	43.710	59.0	+3.4053+ .0223	+ .007	+ .0058	0	.12	.48	.27	
484	L 641	7.0		4	1.634	91.1	+2.4445— .0060	+ .010	— .0002	0	.13	.82	.20	
485	Br 295	7.4		4	5.543	82.6	+3.0321+ .0064	+ .006	— .0073	0	.08	.54	.17	
486	Br 282	6.4		4	7.916	74.4	+5.4212+ .2255	+ .238	+ .0143+ 2		.10	.54	.22	
487	L 664	7.1		4	29.334	82.8	+1.4878+ .0101	— .005	— .0019	0	.18	.75	.27	
488	Br 289	6.6		4	31.090	69.0	+4.1422+ .0744	+ .033	— .0011	0	.09	.32	.16	
489	Br 293	6.4		4	48.690	79.6	+3.6233+ .0350	+ .010	— .0011	0	.10	.34	.15	
490	Br 294	6.8		4	49.525	85.0	+3.6229+ .0350	+ .010	— .0017	0	.12	.45	.17	
491	Br 296	6.1		5	4.896	77.1	+3.3178+ .0177	+ .006	+ .0062	0	.08	.34	.14	
492	L 647	6.0		5	9.794	90.2	+2.3978— .0060	+ .010	— .0045	0	.18	.96	.26	
493	Br 298	6.3		5	30.606	65.4	+3.4037+ .0222	+ .007	.0000	0	.15	.62	.31	
494	L 653	7.0		5	42.367	85.3	+2.4624— .0056	+ .010	+ .0031	0	.13	.86	.25	
495	Br 302	5.9		6	4.249	71.0	+3.1626+ .0114	+ .006	— .0092	0	.10	.46	.21	
496	Br 304	6.3		6	31.125	67.3	+3.0441+ .0066	+ .006	— .0001	0	.12	.51	.25	
497	Br 301 <sup>1</sup>	5.1		6	34.009	77.4	+3.4696+ .0258	+ .007	— .0048	0	.08	.38	.15	
498	Br 292	6.3		6	37.729	83.2	+4.6517+ .1231	+ .080	— .0002	0	.05	.33	.10	
499	Br 300	5.1		6	56.836	66.0	+3.7442+ .0423	+ .013	— .0014	0	.13	.46	.24	
500	Br 299	5.5	2	6	57.038	79.4	+3.9647+ .0559	+ .020	+ .0365+ 2		.05	.26	.09	

463  $\Sigma$  202.  $5^M 3'' 318''$ ; slow binary.469- $\gamma^2$  is a binary; 55 yrs.  $\pm$ ,  $6^M 3-7^M 5$ ,  $< 1''$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta \mu'$	Prob. Errors. 5 Ep. 100 $\mu'$ 5 10	Remarks.
	" ' "		" "	"	"	" " "	
451	-21 18 38.00	78.0	+17.587-.205	-.12	+0.014 0	.13 .45 .19	57 Ceti
452	+76 48 2.85	60.6	+17.518-.421	-.88	-.054- 3	.10 .29 .17	47 Cassiopeiae
453	-21 33 44.50	75.1	+17.543-.207	-.12	-.020- 1	.07 .34 .14	
454	+64 25 7.41	53.8	+17.553-.318	-.42	-.005 0	.11 .35 .23	52 Cassiopeiae
455	- 9 0 29.46	93.3	+17.546-.217	-.13	-.009 0	.11 .73 .16	
456	-42 30 46.92	87.8	+17.449-.181	-.09	-.104 0	.11 .54 .16	129 G Phœnicis
457	+63 54 25.53	69.2	+17.555-.317	-.42	+0.005 0	.09 .30 .15	53 Cassiopeiae
458	-62 3 22.55	70.9	+17.594-.143	-.05	+0.044- 2	.07 .33 .15	
459	+54 0 15.34	53.7	+17.552-.287	-.31	+0.003 0	.10 .30 .20	4 Persei g
460	+75 38 3.81	65.7	+17.519-.403	-.79	-.016 0	.10 .31 .17	49 Cassiopeiae
461	-78 50 14.12	83.2	+17.589+.004	-.19	+0.056- 2	.08 .65 .19	
462	-30 28 56.46	82.1	+17.388-.197	-.10	-.112+ 1	.12 .58 .20	
463	+ 2 16 50.66	67.2	+17.490-.228	-.15	-.006 0	.05 .21 .10	*
464	+74 6 11.90	59.6	+17.483-.389	-.72	-.012 0	.11 .44 .25	51 Cassiopeiae
465	-66 33 3.36	78.9	+17.511-.119	-.04	+0.023 0	.13 .63 .24	26 G Hydri
466	+32 48 7.71	68.4	+17.469-.256	-.22	-.017 0	.08 .38 .18	$\Sigma$ 201. 11 <sup>m</sup> 4" 116°
467	-45 11 41.51	72.8	+17.415-.180	-.08	-.046 0	.12 .56 .24	
468	+41 50 59.62	68.1	+17.406-.270	-.25	-.052 0	.03 .14 .07	} $\Sigma$ 205. 6 <sup>m</sup> 10" 63°*
469	+41 51 4.25	72.8	+17.403-.270	-.25	-.055 0	.07 .37 .15	
470	+25 27 13.18	63.6	+17.465-.252	-.20	+0.016- 1	.11 .49 .25	10 Arietis *
471	- 0 21 12.83	67.6	+17.470-.229	-.15	+0.025 0	.11 .39 .20	60 Ceti
472	+17 46 21.53	71.7	+17.416-.243	-.19	-.022 0	.08 .49 .21	
473	- 0 49 11.17	72.6	+17.379-.229	-.15	-.039 0	.08 .29 .13	61 Ceti
474	-29 46 36.06	82.0	+17.303-.204	-.10	+0.002 0	.10 .54 .18	
475	+71 4 56.46	62.3	+17.109-.385	-.59	-.230- 5	.08 .29 .16	54 Cassiopeiae
476	+22 10 18.05	74.1	+17.279-.253	-.19	-.040 0	.09 .32 .14	
477	+22 59 22.60	65.7	+17.148-.257	-.20	-.146- 1	.02 .11 .05	
478	+57 56 52.38	76.7	+17.295-.314	-.35	+0.008 0	.09 .34 .14	
479	-40 0 56.93	91.4	+17.257-.193	-.09	-.013 0	.12 1.32 .27	
480	+37 23 5.17	62.8	+17.212-.276	-.23	-.041- 1	.11 .49 .26	58 Andromedæ
481	+53 22 14.16	70.1	+17.164-.306	-.31	-.046 0	.11 .44 .21	Br 3226
482	+34 30 51.47	73.4	+17.156-.274	-.23	-.046- 1	.04 .21 .09	
483	+25 28 0.46	55.2	+17.159-.263	-.20	-.037 0	.14 .51 .31	14 Arietis
484	-42 21 17.78	86.9	+17.163-.191	-.09	-.019 0	.11 .57 .17	131 G Phœnicis
485	- 2 48 16.92	77.2	+17.151-.234	-.14	-.028+ 1	.09 .45 .17	62 Ceti
486	+73 33 27.00	74.2	+17.141-.416	-.71	-.037- 1	.08 .38 .16	
487	-66 25 13.80	80.6	+17.141-.119	-.04	-.020 0	.13 .64 .23	31 G Hydri
488	+57 10 24.40	58.8	+17.170-.319	-.34	+0.010 0	.09 .28 .17	5 Persei
489	+38 34 2.87	65.5	+17.126-.281	-.24	-.021 0	.08 .25 .14	59 <sup>1</sup> Andromedæ *
490	+38 34 16.69	79.9	+17.117-.281	-.24	-.029 0	.11 .42 .17	59 <sup>2</sup> Andromedæ *
491	+19 1 43.06	77.0	+17.107-.259	-.19	-.028 0	.07 .35 .14	15 Arietis
492	-43 59 18.79	81.2	+17.079-.189	-.08	-.052 0	.13 .57 .21	132 G Phœnicis
493	+25 27 54.88	64.4	+17.104-.266	-.20	-.011 0	.12 .51 .26	16 Arietis
494	-41 20 19.00	82.2	+17.077-.194	-.09	-.029 0	.12 .69 .23	133 G Phœnicis
495	+ 8 6 5.68	68.7	+16.982-.248	-.16	-.108+ 1	.10 .37 .18	64 Ceti
496	- 2 17 43.53	70.4	+17.043-.240	-.15	-.026 0	.10 .41 .19	63 Ceti
497	+29 50 3.80	72.1	+17.005-.272	-.21	-.062 0	.07 .26 .12	6 Trianguli *
498	+66 3 20.74	75.8	+17.067-.363	-.47	+0.003 0	.05 .21 .09	55 Cassiopeiae
499	+43 45 45.50	61.9	+17.042-.294	-.26	-.007 0	.11 .37 .21	60 Andromedæ b
500	+50 36 4.62	69.8	+16.882-.314	-.30	-.168- 3	.06 .23 .11	6 Persei

470  $\Sigma$  208. 8<sup>m</sup> 2" to 0"7; binary.489-490  $\Sigma$  222. 6<sup>m</sup> 8 16" 39°.497  $\Sigma$  227. 6<sup>m</sup> 4 4" 75°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m					s	$\alpha$ Ep.	100 $\mu$
501	$\eta$ Arietis	5.4	2	7	12.030	76.0	+3.3502+.0189	+0.006	+0.0112 0	.08	.34	.14
502	Br 305	6.1		7	35.941	66.9	+3.2658+.0151	+0.005	+0.0067 0	.10	.42	.21
503	Pi 17	8.7		7	40.139	74.5	+3.0618+.0064	+0.006	+0.0248 0	.15	.62	.27
504	Br 308	5.9		7	40.975	71.2	+3.0617+.0064	+0.006	+0.0247 0	.08	.33	.15
505	Br 306	4.6		7	41.897	73.6	+3.1747+.0116	+0.005	-0.0017 0	.04	.24	.10
506	$\mu$ Fornacis	5.4		8	30.286	85.0	+2.6438-.0032	+0.008	+0.0018 0	.06	.46	.13
507	Pi 22	6.8		9	52.118	68.9	+4.1618+.0726	+0.030	+0.0018 0	.10	.54	.24
508	Br 312	5.5		10	1.226	67.9	+3.5355+.0287	+0.007	-0.0013 0	.13	.46	.23
509	Br 315	5.7		10	2.259	64.3	+3.3948+.0215	+0.006	-0.0061- 1	.14	.57	.30
510	Br 314	6.0		10	2.416	66.3	+3.4258+.0222	+0.006	+0.0136 0	.13	.60	.29
511	L 709	7.0		10	21.812	80.4	-0.0401+.1221	-.220	+0.0289- 9	.10	.72	.24
512	L 682	6.2		10	29.145	87.8	+2.4289-.0050	+0.009	-0.0031 0	.13	.70	.20
513	Br 310	6.1		10	54.988	72.8	+4.2125+.0758	+0.032	+0.0087+ 1	.14	.48	.22
514	$\delta$ Trianguli	5.1		10	56.857	63.4	+3.6481+.0304	+0.007	+0.025+ 4	.09	.34	.18
515	Br 311	6.3		11	2.218	80.9	+4.1873+.0742	+0.031	-0.0009 0	.10	.42	.16
516	Dpt 217	7.4		11	19.763	85.8	+2.9591+.0036	+0.005	+0.0182 0	.12	.50	.17
517	$\gamma$ Trianguli	4.1		11	22.005	82.9	+3.5534+.0292	+0.007	+0.0034 0	.06	.39	.12
518	Br 321	5.9		11	59.696	77.4	+2.9906+.0049	+0.005	+0.0061 0	.03	.26	.09
519	Br 316	6.9		12	2.859	71.3	+4.1809+.0728	+0.029	+0.0012 0	.10	.54	.23
520	L 701	5.6		12	8.914	82.0	+1.2451+.0208	-.019	+0.0045 0	.16	.78	.28
521	$\theta$ Arietis	5.7		12	33.676	77.0	+3.3292+.0180	+0.005	-0.0010 0	.05	.27	.10
522	Br 319	5.4		12	49.448	77.6	+3.8494+.0477	+0.014	-0.0056- 1	.09	.34	.14
523	Pi 52	5.8		12	49.663	74.7	+3.1133+.0086	+0.005	+0.0245+ 1	.10	.50	.20
524	$\phi$ Eridani	3.8		12	56.205	75.7	+2.1438-.0045	+0.009	+0.0081- 1	.11	.48	.20
525	L 688	7.1		13	5.585	86.5	+2.5447-.0040	+0.008	+0.0139 0	.10	.69	.19
526	Br 322	5.4		13	9.164	69.4	+3.4662+.0244	+0.006	+0.0009 0	.14	.51	.25
527	L 706	5.7		13	23.285	83.5	+1.2362+.0208	-.019	+0.0016 0	.16	.84	.28
528	Br 327	7.2		13	35.070	64.9	+3.3284+.0178	+0.005	-0.0005 0	.18	.54	.30
529	Br 325	6.4		14	12.889	64.2	+3.8605+.0477	+0.014	+0.0001 0	.15	.68	.34
530	$\alpha$ Ceti	Var.		14	17.644	75.9	+3.0279+.0062	+0.005	-0.0001- 1	.04	.21	.08
531	Br 324	5.8		14	20.768	64.6	+3.9484+.0535	+0.016	+0.0045 0	.13	.44	.24
532	Pi 59	6.7		14	29.665	86.0	+2.6875-.0008	+0.007	-0.0172+ 3	.10	.62	.18
533	Br 323	6.8		14	51.225	76.1	+4.2050+.0732	+0.028	-0.0002 0	.10	.51	.20
534	Br 326	5.3		15	22.903	68.4	+4.1514+.0686	+0.025	+0.0006 0	.10	.44	.21
535	Br 328	7.2		15	54.810	73.9	+4.2205+.0738	+0.028	+0.0011 0	.12	.45	.20
536	Pi 61	6.1		16	36.705	69.8	+3.7156+.0379	+0.009	-0.0076- 1	.11	.56	.25
537	L 717	6.0		16	39.758	87.6	+1.9436-.0014	+0.007	+0.0011 0	.14	.88	.24
538	Pi 62	7.5		16	39.858	69.8	+3.7261+.0382	+0.009	+0.0008 0	.18	.62	.31
539	Br 333	5.8		16	49.161	67.4	+3.0712+.0079	+0.005	-0.0003 0	.11	.40	.21
540	Br 335	5.8		17	6.638	67.9	+3.0529+.0073	+0.005	-0.0018 0	.14	.51	.26
541	Paris 2948	5.7		17	8.001	93.8	+2.9324+.0035	+0.005	+0.0096- 1	.11	.78	.17
542	Br 331	5.5		17	46.048	62.8	+3.9615+.0531	+0.015	+0.0025 0	.13	.44	.24
543	$\kappa$ Fornacis	5.5		17	58.016	87.8	+2.7458-.0007	+0.007	+0.0147- 1	.06	.48	.12
544	Br 330	6.5		18	12.131	69.3	+4.2022+.0711	+0.025	-0.0005 0	.14	.42	.22
545	Br 334	5.0		18	57.021	75.6	+3.9770+.0537	+0.015	+0.0027 0	.09	.33	.15
546	$\xi$ Arietis	5.6		19	27.320	66.8	+3.2100+.0127	+0.004	+0.0008 0	.08	.36	.18
547	Br 339	6.5		19	55.147	68.0	+3.0298+.0066	+0.005	+0.0007 0	.14	.51	.26
548	$\delta$ Hydri	4.3		19	58.049	71.9	+1.0536+.0290	-.029	-0.0102+ 2	.10	.46	.20
549	L 739	7.0		20	15.780	85.1	+1.8807.0000	+0.005	+0.0029 0	.15	.84	.26
550	$\iota$ Cassiopeiae	4.5	2	20	49.270	69.8	+4.8827+.1322	+0.077	-0.0006 0	.03	.22	.10

503-4  $\Sigma$  231.  $8^m 7 16'' 232^\circ$ .534  $\beta$  875.  $12^m 12'' 160^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
501	+20 44 28.10	73.2	+17.040-.266	-.19	+ .002- 1	.07	.30	.13	
502	+14 48 40.28	56.2	+16.997-.259	-.18	-.022 0	.09	.30	.18	19 Arietis
503	- 2 51 49.70	78.2	+16.974-.245	-.14	-.042- 2	.12	.65	.24	66 <sup>1</sup> Ceti *
504	- 2 51 39.77	67.0	+16.961-.245	-.14	-.054- 2	.07	.25	.13	66 <sup>2</sup> Ceti *
505	+ 8 22 39.64	69.9	+17.008-.252	-.16	-.007 0	.04	.20	.09	65 Ceti $\xi^1$
506	-31 11 34.36	81.6	+16.979-.212	-.10	+ .002 0	.08	.49	.16	
507	+56 35 24.45	62.6	+16.914-.333	-.35	.000 0	.14	.45	.26	
508	+32 53 38.91	70.7	+16.875-.284	-.22	-.031 0	.10	.47	.21	7 Trianguli
509	+24 34 46.37	61.3	+16.819-.273	-.20	-.087 0	.13	.55	.30	21 Arietis
510	+25 19 7.97	62.0	+16.845-.277	-.20	-.060- 1	.12	.47	.26	20 Arietis
511	-77 5 35.37	82.0	+16.913-.006	-.16	+ .023- 2	.09	.63	.20	32 G Hydri
512	-41 37 57.05	84.1	+16.851-.198	-.08	-.033 0	.11	.53	.18	135 G Phoenicis
513	+57 26 10.02	65.7	+16.884-.340	-.35	+ .020- 1	.12	.40	.21	8 Persei
514	+33 45 59.65	62.9	+16.617-.302	-.22	-.246- 8	.07	.30	.16	
515	+57 3 10.10	72.0	+16.859-.337	-.35	+ .001 0	.09	.27	.14	7 Persei ( $\chi$ ); cluster here
516	-10 17 5.96	80.2	+16.806-.242	-.13	-.039- 2	.10	.41	.16	$\Sigma$ 242. 9 <sup>m</sup> 54" 233°
517	+33 23 4.97	78.9	+16.792-.288	-.22	-.051 0	.06	.34	.12	
518	- 6 52 58.62	76.6	+16.705-.245	-.14	-.108 0	.04	.26	.10	67 Ceti
519	+56 40 23.85	68.9	+16.801-.339	-.35	-.009 0	.11	.42	.20	In Cluster
520	-68 18 29.62	81.6	+16.855-.106	-.05	+ .049 0	.14	.65	.23	35 G Hydri $\pi^1$
521	+19 26 18.86	71.6	+16.780-.272	-.18	-.006 0	.05	.21	.10	
522	+46 55 6.71	69.4	+16.762-.314	-.28	-.011 0	.10	.29	.16	62 Andromedæ c
523	+ 1 17 5.82	73.7	+17.150-.257	-.15	+ .377- 2	.10	.47	.20	
524	-51 58 30.21	73.7	+16.739-.179	-.06	-.029- 1	.09	.40	.17	
525	-36 26 49.58	83.7	+16.810-.212	-.09	+ .050- 1	.10	.59	.18	21 G Fornacis
526	+28 10 52.11	66.7	+16.756-.284	-.21	-.002 0	.12	.49	.24	10 Trianguli
527	-68 12 35.48	82.1	+16.740-.106	-.05	-.006 0	.14	.67	.23	36 G Hydri $\pi^2$
528	+19 13 48.11	54.0	+16.621-.274	-.18	-.116 0	.13	.40	.26	23 Arietis
529	+46 51 5.30	63.8	+16.701-.318	-.28	-.005 0	.14	.54	.29	
530	- 3 25 54.03	76.2	+16.466-.251	-.14	-.237 0	.04	.24	.09	Mira. 2 <sup>m</sup> 5 to 10 <sup>m</sup>
531	+49 41 34.60	57.2	+16.677-.326	-.30	-.023 0	.11	.32	.20	63 Andromedæ
532	-26 25 7.61	84.1	+17.143-.223	-.10	+ .450+ 1	.10	.53	.17	22 G Fornacis
533	+56 47 4.44	75.8	+16.665-.347	-.36	-.011 0	.09	.51	.20	
534	+55 23 16.87	51.2	+16.650-.344	-.34	.000 0	.11	.37	.24	9 Persei $i$ *
535	+56 55 48.83	72.6	+16.625-.351	-.36	+ .001 0	.10	.41	.18	
536	+40 56 33.45	68.2	+16.496-.310	-.25	-.094+ 1	.10	.45	.21	
537	-56 24 14.29	82.5	+16.611-.166	-.05	+ .024 0	.11	.56	.19	1 G Horologii *
538	+41 1 25.81	54.8	+16.588-.312	-.25	+ .001 0	.16	.48	.31	
539	- 0 3 40.39	70.8	+16.574-.259	-.14	-.005 0	.08	.32	.15	69 Ceti
540	- 1 20 24.72	65.5	+16.517-.257	-.14	-.048 0	.11	.38	.20	70 Ceti
541	-11 13 55.92	91.0	+16.469-.249	-.13	-.095- 1	.10	.61	.15	
542	+49 33 10.70	57.3	+16.493-.334	-.29	-.040 0	.11	.32	.20	64 Andromedæ
543	-24 16 14.34	86.7	+16.462-.235	-.10	-.061- 1	.06	.37	.10	
544	+56 9 22.45	64.1	+16.522-.354	-.35	+ .011 0	.12	.40	.22	10 Persei
545	+49 49 33.77	65.8	+16.458-.338	-.30	-.016 0	.10	.27	.16	65 Andromedæ
546	+10 9 28.09	66.4	+16.434-.275	-.16	-.015 0	.08	.35	.17	$\psi$ Ceti
547	- 3 13 57.53	67.2	+16.420-.260	-.14	-.005 0	.11	.39	.20	71 Ceti
548	-69 6 52.16	73.8	+16.435-.094	-.05	+ .012+ 1	.09	.43	.18	
549	-57 16 4.63	82.5	+16.439-.165	-.05	+ .031 0	.12	.65	.22	2 G Horologii
550	+66 57 10.57	69.4	+16.394-.417	-.52	+ .014 0	.04	.21	.09	*

537 h 3497. 11<sup>m</sup> 33" 82°.550  $\Sigma$  262. 7<sup>m</sup> 1 2" 252°; 8<sup>m</sup> 1 7" 111°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m		s	"			"	"	$\alpha$ Ep.
551	$\rho$ Ceti	5.0	2	21	7.107	76.2	+2.8961+.0032	+0.006	-0.0017	0	.08	.33	.14
552	Br 337	6.5	21	9.044		77.1	+4.0004+.0542	+0.015	+0.0040-	1	.10	.36	.16
553	Dpt 238	6.0	21	15.161		92.4	+2.8499+.0022	+0.006	-0.0039	0	.13	.57	.16
554	Br 341	7.1	21	23.753		66.0	+3.2132+.0127	+0.004	+0.0029	0	.11	.48	.24
555	Br 340	5.9	21	32.177		84.1	+3.5414+.0271	+0.006	-0.0024	0	.10	.40	.15
556	Br 345	6.8	22	4.137		68.0	+3.1861+.0123	+0.004	-0.0197-	1	.10	.33	.17
557	$\lambda$ Horologii	5.6	22	6.056		85.8	+1.6731+.0043	+0.001	-0.0120	0	.12	.63	.20
558	$\kappa$ Hydri	6.2	22	16.184		89.0	+0.3205+.0766	-.105	-.0230+	6	.14	.88	.23
559	Br 342	5.5	22	18.072		67.9	+3.5059+.0251	+0.006	-0.0014-	1	.12	.48	.24
560	$\xi$ Ceti	4.4	22	50.455		75.4	+3.1847+.0116	+0.004	+0.0026	0	.03	.18	.07
561	Br 346	6.2	22	56.340		85.4	+3.5081+.0255	+0.005	-0.0055	0	.13	.42	.16
562	Pi 60	8.0	23	2.873		67.1	+8.1296+.6778	+1.251	+0.0110+	5	.11	.40	.21
563	$\kappa$ Eridani	4.5	23	19.190		74.2	+2.2000-.0033	+0.008	+0.0012	0	.11	.51	.21
564	$\phi$ Fornacis	5.3	23	47.886		84.4	+2.5394-.0025	+0.008	+0.0015	0	.11	.63	.20
565	Pi 96	6.1	24	47.094		80.7	+3.4421+.0216	+0.005	+0.0052	0	.09	.48	.16
566	Br 349	6.4	25	1.805		66.6	+3.3558+.0179	+0.004	+0.0050	0	.14	.40	.22
567	Pi 104	6.9	25	21.401		84.7	+2.7409+.0002	+0.006	+0.0068	0	.13	.72	.22
568	Br 351	6.6	25	21.486		71.5	+3.3209+.0165	+0.004	+0.0025	0	.07	.36	.16
569	Pi 106	6.8	25	43.985		83.8	+2.6982-.0005	+0.006	+0.0067	0	.13	.68	.22
570	Pi 107	6.7	25	59.241		81.3	+2.7360+.0002	+0.006	+0.0009	0	.14	.68	.24
571	Br 350	5.5	25	59.793		77.0	+3.6468+.0315	+0.005	+0.0032	0	.10	.44	.17
572	Pulk <sub>ss</sub> 363	5.6	26	19.693		87.9	+3.0985+.0088	+0.004	+0.0008	0	.10	.48	.15
573	Pi 100 <i>m</i>	6.9	26	27.340		82.0	+4.0869+.0583	+0.015	-0.0008	0	.11	.51	.18
574	Br 354	5.7	27	4.017		65.5	+3.0502+.0075	+0.004	-0.0015	0	.11	.45	.23
575	$\sigma$ Ceti	4.9	27	20.838		73.7	+2.8419+.0023	+0.006	-0.0055	0	.07	.32	.14
576	Br 352	6.3	27	25.431		66.2	+3.2799+.0151	+0.004	-0.0011	0	.10	.36	.19
577	Br 348	5.5	28	30.993		75.3	+5.6075+.2059	+1.152	-0.0050	0	.03	.21	.08
578	L 785	7.5	28	32.690		79.5	+2.2218-.0027	+0.007	-0.0059	0	.14	.82	.29
579	L 781	6.1	28	56.834		87.4	+2.5016-.0022	+0.007	-0.0026	0	.10	.66	.18
580	$\omega$ Fornacis	5.0	29	27.950		82.8	+2.6271-.0009	+0.007	-0.0017	0	.12	.69	.22
581	Dpt 249	6.0	29	29.015		96.5	+3.6816+.0327	+0.005	+0.0008	0	.12	.78	.16
582	Br 357	5.8	29	42.524		73.3	+3.6278+.0298	+0.005	+0.0024	0	.09	.38	.16
583	Pi 118	6.5	29	46.303		67.4	+3.1710+.0111	+0.004	-0.0016	0	.13	.57	.28
584	Br 359	6.1	29	46.575		69.2	+2.9581+.0050	+0.005	+0.0042	0	.14	.52	.26
585	Pi 115	7.6	29	55.726		79.7	+4.0963+.0574	+0.013	+0.0007	0	.09	.39	.15
586	Br 363	7.2	30	19.055		71.9	+3.0054+.0063	+0.004	-0.0101-	2	.10	.36	.17
587	L 799	6.5	30	30.208		89.6	+2.0438-.0013	+0.006	-0.0016	0	.15	.80	.22
588	Pi 123	6.2	30	35.758		76.5	+3.2848+.0123	+0.004	+0.1208+	7	.05	.32	.12
589	$\nu$ Ceti	5.1	30	37.508		71.8	+3.1439+.0103	+0.004	-0.0021	0	.05	.28	.12
590	Br 365	5.9	31	4.668		67.5	+2.9509+.0050	+0.004	-0.0025	0	.14	.50	.25
591	Br 364	5.9	31	10.631		70.4	+3.2660+.0137	+0.003	+0.0194	0	.07	.28	.13
592	Br 360	7.3	31	11.546		77.6	+3.4518+.0212	+0.004	+0.0111	0	.12	.58	.22
593	Br 361	6.9	31	14.363		79.4	+3.4510+.0212	+0.004	+0.0102	0	.08	.42	.15
594	L 798	6.0	31	50.613		85.9	+2.5883-.0011	+0.006	-0.0002	0	.14	.70	.22
595	Br 368	6.0	32	39.474		78.4	+3.0200+.0066	+0.004	+0.0029	0	.09	.42	.16
596	L 805	6.0	32	49.491		81.2	+2.4923-.0021	+0.007	-0.0011-	2	.14	.72	.25
597	$\nu$ Arietis	5.6	33	8.158		83.1	+3.3984+.0192	+0.004	-0.0006	0	.04	.26	.08
598	L 803	7.2	33	13.035		87.6	+2.7135+.0006	+0.006	+0.0001	0	.13	1.02	.26
599	Br 344	6.1	33	20.935		73.2	+8.3300+.6595	+1.072	+0.0089-	7	.06	.30	.13
600	Br 358	7.6	2	33	46.583	67.8	+5.0922+.1388	+0.068	+0.0003	0	.15	.63	.30



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
551	-12 44 29.35	73.5	+16.356-.251	-.12	-.009 0	.08 .32 .14	
552	+50 7 21.57	68.4	+16.266-.344	-.30	-.098 0	.10 .27 .15	66 Andromedæ
553	-15 47 27.19	81.0	+16.307-.247	-.12	-.051 0	.13 .44 .18	W.H. 9 <sup>m</sup> 12" 295°
554	+10 6 54.17	61.6	+16.326-.278	-.16	-.025 0	.11 .53 .28	OΣ 8 <sup>m</sup> 74" 32°
555	+31 21 8.05	78.4	+16.310-.306	-.21	-.034 0	.09 .33 .14	11 Trianguli
556	+9 45 16.11	62.0	+16.115-.275	-.16	-.202+ 2	.10 .34 .19	25 Arietis
557	-60 45 34.40	82.6	+16.180-.148	-.05	-.135+ 1	.11 .59 .20	
558	-74 5 55.40	83.8	+16.306-.032	-.10	-.001+ 2	.11 .54 .18	
559	+29 13 22.71	67.1	+16.218-.304	-.21	-.087 0	.09 .40 .19	12 Trianguli
560	+8 0 42.79	74.6	+16.274-.278	-.16	-.004 0	.03 .17 .07	73 Ceti ξ <sup>2</sup>
561	+29 28 55.09	75.5	+16.343-.305	-.21	+.070 0	.11 .34 .16	13 Trianguli
562	+81 12 6.30	61.0	+16.265-.700	-1.89	-.002- 1	.10 .37 .21	
563	-48 9 9.59	77.8	+16.240-.195	-.06	-.013 0	.09 .49 .18	
564	-34 15 32.42	77.0	+16.241-.224	-.09	+.012 0	.12 .57 .22	
565	+24 47 30.72	75.4	+16.095-.304	-.20	-.083 0	.08 .30 .13	Σ 271. 11 <sup>m</sup> 12" 181°
566	+19 24 40.97	63.4	+16.132-.296	-.18	-.033 0	.12 .39 .22	26 Arietis
567	-23 7 42.65	79.7	+16.149-.244	-.10	+.001- 1	.12 .56 .20	257 G Ceti (Fornax)
568	+17 15 41.28	65.4	+16.051-.294	-.17	-.097 0	.07 .33 .16	27 Arietis
569	-25 37 56.02	85.3	+16.153-.241	-.10	+.024- 1	.11 .57 .18	30 G Fornacis
570	-22 59 20.36	80.4	+16.073-.244	-.10	-.042 0	.12 .60 .22	258 G Ceti (Fornax)
571	+35 42 13.02	71.3	+16.120-.323	-.23	+.005 0	.09 .35 .16	14 Trianguli
572	+1 49 26.09	87.1	+16.094-.276	-.14	-.004 0	.10 .46 .14	
573	+51 52 2.28	74.4	+16.084-.362	-.32	-.007 0	.09 .34 .15	*
574	-1 28 35.10	64.6	+16.030-.273	-.14	-.029 0	.09 .33 .18	75 Ceti
575	-15 41 0.67	71.9	+15.927-.254	-.12	-.117 0	.07 .28 .13	
576	+14 35 30.54	60.2	+16.073-.294	-.17	+.033 0	.10 .39 .22	29 Arietis
577	+72 22 51.57	77.3	+16.003-.500	-.74	+.020 0	.04 .22 .08	36 H Cassiopeiaæ
578	-46 18 42.61	78.4	+15.961-.202	-.06	-.020 0	.11 .67 .24	
579	-35 5 23.23	82.5	+15.940-.227	-.08	-.020 0	.10 .60 .19	33 G Fornacis λ <sup>1</sup>
580	-28 40 18.29	81.0	+15.915-.239	-.09	-.018 0	.11 .63 .21	h 3506. 8 <sup>m</sup> 11" 243°
581	+36 52 28.89	90.1	+15.932-.333	-.24	.000 0	.12 .51 .16	Σ 279. 11 <sup>m</sup> 17" 72°
582	+34 15 4.64	69.2	+15.866-.328	-.23	-.054 0	.08 .31 .15	15 Trianguli
583	+7 2 9.64	67.4	+15.812-.287	-.15	-.104 0	.13 .58 .28	
584	-8 17 46.13	68.6	+15.851-.269	-.13	-.065 0	.11 .42 .21	77 Ceti
585	+51 31 28.49	77.0	+15.896-.370	-.32	-.012 0	.09 .34 .14	Br 3228
586	-3 59 9.69	70.0	+15.461-.273	-.14	-.426+ 1	.08 .30 .14	79 Ceti
587	-51 31 52.76	86.3	+15.856-.188	-.05	-.021 0	.12 .61 .19	7 G Horologii
588	+6 24 34.66	75.5	+17.335-.310	-.15	+1.463- 11	.05 .32 .12	
589	+5 9 24.68	67.8	+15.842-.286	-.15	-.029 0	.06 .26 .12	Σ 281. 9 <sup>m</sup> 8" 83°
590	-8 15 59.85	71.2	+15.781-.270	-.13	-.066 0	.11 .46 .21	80 Ceti
591	+12 0 50.42	69.0	+15.756-.300	-.16	-.085- 2	.07 .27 .13	31 Arietis
592	+24 12 45.09	75.8	+15.832-.316	-.19	-.009- 1	.09 .51 .20	{ Σ 5. App. 38" 274°
593	+24 12 43.08	73.9	+15.828-.316	-.19	-.010- 1	.07 .30 .13	{ 30 Arietis
594	-30 28 50.69	82.8	+15.803-.239	-.09	-.003 0	.12 .61 .20	35 G Fornacis λ <sup>1</sup>
595	-3 49 44.52	75.7	+15.720-.279	-.13	-.042 0	.08 .38 .16	81 Ceti
596	-35 0 19.58	72.6	+15.474-.231	-.08	-.279 0	.15 .73 .30	36 G Fornacis λ <sup>2</sup>
597	+21 31 44.34	78.8	+15.713-.313	-.18	-.023 0	.04 .26 .09	
598	-23 25 36.48	87.2	+15.763-.252	-.10	+.032 0	.13 1.12 .29	278 G Ceti
599	+81 1 29.55	74.8	+15.655-.761	-1.95	-.069- 1	.08 .34 .14	Groomb 527
600	+67 38 6.68	66.7	+15.689-.468	-.56	-.012 0	.11 .47 .23	

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
601	$\mu$ Hydri	5.5	2	33	46.944	77.1	-1.3882+.2507	-.493	+.0430-21	.07	.57	.20
602	L 811	6.0		33	59.971	83.8	+2.5882-.0012	+.006	+.0084-1	.15	.92	.28
603	$\eta$ Horologii	5.4		34	6.434	85.1	+1.9765-.0002	+.005	+.0079-1	.13	.75	.23
604	$\delta$ Ceti	4.1		34	21.352	76.3	+3.0715+.0082	+.004	+.0007 0	.04	.21	.08
605	$\epsilon$ Ceti	5.1		34	43.606	70.7	+2.9006+.0036	+.005	+.0103-1	.08	.28	.14
606	Br 370	5.6		34	50.292	76.2	+3.4967+.0229	+.004	+.0053 0	.10	.30	.14
607	Pi 148	6.5		34	59.258	60.6	+3.1589+.0106	+.004	+.0033 0	.14	.57	.32
608	Paris 3317	6.1		35	20.463	93.7	+2.9159+.0045	+.004	-.0105 0	.14	.78	.19
609	Br 369	5.9		35	53.300	78.4	+4.2644+.0658	+.015	+.0058 0	.10	.39	.16
610	Br 371	5.1		35	56.022	73.7	+3.7709+.0358	+.005	-.0012-1	.10	.39	.17
611	L 827	4.9		35	59.199	80.1	+2.2866-.0022	+.006	+.0074-1	.13	.66	.24
612	Br 378	5.9		36	6.517	77.9	+3.0699+.0076	+.004	+.0140-1	.10	.48	.18
613	Br 366	6.1		36	12.958	81.7	+5.0989+.1364	+.063	+.0037 0	.06	.42	.13
614	$\iota$ Eridani	4.1		36	43.257	82.2	+2.3673-.0021	+.006	+.0106-1	.10	.51	.17
615	$\mu$ Arietis	5.9		36	43.564	72.2	+3.3750+.0179	+.003	+.0022 0	.08	.34	.15
616	Br 381	6.5		37	5.775	66.7	+3.2240+.0128	+.003	-.0023 0	.13	.50	.25
617	$\theta$ Persei	4.2		37	21.963	75.1	+4.0746+.0513	+.008	+.0343+2	.03	.16	.07
618	$\zeta$ Horologii	5.4		37	32.907	80.8	+1.8662+.0017	+.004	+.0040 0	.16	.70	.26
619	Br 376	5.7		37	34.190	64.6	+3.8877+.0419	+.006	.0000 0	.14	.50	.27
620	Br 380	4.7		37	34.874	81.6	+3.5101+.0233	+.003	+.0003 0	.07	.36	.12
621	$\epsilon$ Hydri	4.3		38	2.960	73.7	+0.9086+.0334	-.033	+.0167-3	.11	.48	.21
622	$\gamma$ Ceti	3.5		38	7.087	67.8	+3.1044+.0092	+.003	-.0098-1	.03	.18	.08
623	L 841	6.1		38	7.667	90.4	+2.3883-.0018	+.006	+.0002 0	.12	.70	.18
624	Br 384	6.8		38	44.152	71.6	+3.3424+.0165	+.003	+.0036 0	.13	.45	.21
625	$\alpha$ Arietis	6.0		39	2.233	72.4	+3.2997+.0151	+.003	+.0001 0	.10	.52	.22
626	$\iota$ Horologii	5.6		39	9.157	87.7	+2.0395-.0002	+.005	+.0321-1	.19	1.23	.34
627	$\pi$ Ceti	4.4		39	21.781	74.3	+2.8539+.0033	+.005	-.0005 0	.05	.26	.10
628	Br 386	5.3		39	30.550	73.0	+3.2629+.0136	+.003	+.0080 0	.09	.42	.18
629	$\mu$ Ceti	4.3		39	32.100	77.0	+3.2377+.0125	+.003	+.0190 0	.04	.20	.07
630	L 855	6.5		40	8.822	82.1	+2.5160-.0010	+.006	+.0008 0	.14	.75	.25
631	Br 390	4.6		40	26.120	67.9	+2.7987+.0020	+.005	+.0228 0	.10	.39	.19
632	L 893	6.7		41	41.684	83.6	+1.0332+.0265	-.024	+.0159-4	.14	.75	.24
633	L 875	7.2		41	47.364	82.4	+2.2572-.0015	+.006	+.0007 0	.15	.81	.27
634	Br 389	4.8		41	57.137	68.3	+3.5615+.0244	+.003	+.0115 0	.08	.36	.17
635	Br 393	6.2		42	55.577	69.2	+3.3561+.0168	+.003	+.0026 0	.11	.45	.21
636	Br 391	6.1		42	56.922	78.3	+3.4799+.0213	+.003	+.0051 0	.11	.36	.16
637	Br 382	6.4		43	2.860	71.0	+5.2874+.1473	+.064	+.0028 0	.10	.48	.21
638	L 896	5.9		43	19.215	81.8	+1.2724+.0171	-.012	+.0015 0	.16	.75	.27
639	$\eta$ Persei	4.0		43	23.881	78.6	+4.3462+.0678	+.012	+.0029 0	.04	.22	.08
640	L 879	6.8		43	30.359	82.7	+2.4340-.0011	+.006	-.0036 0	.15	.93	.29
641	$\pi$ Arietis	5.5		43	42.621	61.3	+3.3413+.0163	+.003	+.0005 0	.08	.33	.18
642	$\zeta$ Hydri	5.0		43	59.967	71.2	+0.9080+.0324	-.030	+.0098 0	.14	.54	.25
643	Br 395	3.5		44	5.733	77.1	+3.5214+.0227	+.002	+.0050 0	.03	.20	.07
644	Br 394	4.3		44	16.078	67.7	+3.7717+.0334	+.003	+.0157 0	.08	.32	.16
645	$\beta$ Fornacis	4.5		44	54.357	84.4	+2.5121-.0004	+.006	+.0079+1	.07	.38	.12
646	Br 398	4.8		45	21.042	66.8	+3.6840+.0296	+.002	+.0016 0	.12	.50	.25
647	$\gamma$ Fornacis	5.5		45	34.255	85.3	+2.5988+.0002	+.005	+.0034 0	.11	.75	.22
648	$\sigma$ Arietis	5.7		45	58.199	77.4	+3.3062+.0149	+.002	+.0021 0	.04	.27	.10
649	L 897	6.0		46	12.176	88.3	+2.4263-.0009	+.006	+.0041 0	.10	.60	.17
650	Br 404	4.9	2	46	30.146	76.1	+2.7204+.0017	+.005	-.0037 0	.06	.28	.11

606  $\Sigma$  289. 9<sup>m</sup> 29'' 360°.612  $\Sigma$  295. 9<sup>m</sup> 4'' 321°.

## CATALOGUE OF 6188 STARS FOR 1900

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No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
601	-79 32 44.37	79.7	+15.671+.115	-.42	-.030- 4	.06	.55	.18	37 G Fornacis $\epsilon^2$
602	-30 37 28.54	76.8	+15.608-.242	-.09	-.081- 1	.13	.67	.26	
603	-52 58 33.39	83.0	+15.661-.187	-.05	-.022- 1	.11	.59	.19	
604	- 0 6 10.13	78.8	+15.670-.286	-.14	+.001 0	.04	.21	.08	
605	-12 17 48.08	68.2	+15.413-.272	-.12	-.236- 1	.07	.23	.12	
606	+26 37 53.52	68.8	+15.609-.326	-.20	-.034 0	.08	.26	.13	33 Arietis *
607	+ 5 40 54.71	59.4	+15.645-.295	-.15	+.010 0	.14	.61	.34	
608	- 9 52 50.86	90.3	+15.525-.272	-.12	-.091+ 1	.12	.73	.19	
609	+54 40 44.99	71.3	+15.559-.398	-.34	-.027 0	.09	.28	.14	11 Persei
610	+39 46 15.76	65.8	+15.392-.352	-.25	-.191 0	.08	.32	.16	12 Persei
611	-43 19 15.66	78.6	+15.542-.217	-.07	-.038- 1	.11	.57	.21	18 G Eridani s
612	- 1 7 15.47	71.3	+15.437-.290	-.14	-.136- 1	.09	.35	.16	84 Ceti *
613	+67 23 59.29	75.2	+15.539-.475	-.56	-.028 0	.06	.30	.12	
614	-40 16 59.98	76.0	+15.511-.226	-.07	-.029- 1	.09	.39	.16	
615	+19 35 7.38	71.9	+15.492-.318	-.18	-.047 0	.07	.34	.15	$\beta$ 522. 12 <sup>m</sup> 19" 264°
616	+10 18 55.51	60.6	+15.498-.304	-.16	-.021 0	.11	.44	.24	85 Ceti (Aries)
617	+48 48 19.89	71.0	+15.414-.387	-.30	-.090- 3	.03	.12	.06	$\Sigma$ 296. 10 <sup>m</sup> 17" 299°
618	-54 58 41.24	78.4	+15.488-.180	-.05	-.006 0	.13	.57	.22	
619	+43 52 19.06	59.8	+15.489-.366	-.26	-.004 0	.11	.39	.22	14 Persei
620	+27 16 53.82	72.3	+15.479-.331	-.20	-.013 0	.06	.25	.11	35 Arietis
621	-68 41 43.46	74.9	+15.482-.092	-.06	+.016- 2	.10	.42	.18	
622	+ 2 48 51.79	64.4	+15.312-.294	-.14	-.150+ 1	.03	.16	.08	$\Sigma$ 299. 7 <sup>m</sup> 3" 291°
623	-38 48 37.74	84.2	+15.462-.228	-.07	.000 0	.12	.58	.19	40 G Fornacis
624	+17 20 26.22	67.0	+15.383-.318	-.17	-.045 0	.11	.41	.21	36 Arietis
625	+14 53 17.87	67.8	+15.377-.314	-.17	-.034 0	.10	.42	.20	
626	-51 13 54.58	81.7	+15.626-.200	-.05	+.222- 3	.15	.81	.27	
627	-14 16 55.87	71.1	+15.379-.273	-.11	-.014 0	.06	.24	.11	
628	+12 1 29.93	68.6	+15.302-.312	-.16	-.082- 1	.08	.33	.16	38 Arietis
629	+ 9 41 31.10	71.7	+15.356-.311	-.16	-.027- 2	.04	.19	.08	B. A. C. has Aries
630	-32 56 50.27	76.6	+15.318-.242	-.08	-.030 0	.12	.64	.24	44 G Fornacis
631	-18 59 44.91	68.1	+15.379-.271	-.10	+.047- 2	.10	.37	.18	1 Eridani $\tau^1$ (80 Ceti)
632	-67 8 5.94	79.2	+15.205-.106	-.05	-.056- 2	.11	.53	.20	19 G Horologii
633	-43 15 27.14	79.0	+15.194-.220	-.06	-.062 0	.12	.64	.23	25 G Eridani
634	+28 49 54.39	64.4	+15.121-.344	-.20	-.125- 1	.07	.29	.15	39 Arietis
635	+17 52 1.84	64.5	+15.156-.326	-.18	-.035 0	.09	.40	.20	40 Arietis
636	+24 46 15.01	75.5	+15.184-.338	-.19	-.006 0	.11	.34	.16	
637	+68 28 26.89	67.8	+15.179-.510	-.60	-.005 0	.09	.40	.19	
638	-64 7 26.20	81.0	+15.171-.128	-.05	+.003 0	.14	.64	.23	20 G Horologii, B.A.C. has $\gamma$
639	+55 28 49.80	75.7	+15.148-.421	-.35	-.016 0	.04	.17	.07	$\Sigma$ 307. 8 <sup>m</sup> 5 28" 301°
640	-35 58 3.52	76.0	+15.110-.238	-.08	-.048 0	.14	.82	.31	46 G Fornacis $\eta^1$
641	+17 2 53.96	58.5	+15.125-.325	-.17	-.021 0	.07	.29	.16	$\Sigma$ 311. 8 <sup>m</sup> 4 3" 121°
642	-68 2 12.71	73.0	+15.182-.094	-.06	+.052- 1	.12	.50	.22	
643	+26 50 54.12	73.6	+15.011-.344	-.20	-.113 0	.04	.21	.08	41 Arietis
644	+37 54 25.00	64.7	+15.009-.369	-.24	-.105- 2	.07	.29	.15	16 Persei
645	-32 49 33.25	80.8	+15.237-.248	-.08	+.160- 1	.08	.40	.14	
646	+34 38 53.76	63.6	+14.978-.361	-.23	-.074 0	.11	.47	.24	17 Persei
647	-28 21 24.85	83.6	+15.073-.257	-.09	+.033 0	.11	.56	.18	51 G Fornacis $\gamma^2$ *
648	+14 40 12.07	75.6	+14.983-.326	-.17	-.033 0	.05	.26	.10	
649	-36 15 28.04	86.2	+15.027-.241	-.07	+.025 0	.12	.61	.19	52 G Fornacis $\eta^2$ *
650	-21 24 57.99	73.1	+14.973-.269	-.10	-.012 0	.08	.35	.15	2 Eridani $\tau^2$

647 Possibly a close double.

649 h 3536. 10<sup>m</sup> 5 5" 13°.



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
651	L 899	5.6	2 46 37.960	86.6	+2.4267-.0007	+ .006	+ .0019 0	.13	.64	.20
652	$\nu$ Horologii	5.5	46 48.193	84.0	+1.3186+.0154	-.010	+ .0080- 1	.15	1.06	.32
653	$\tau$ Persei	4.1	47 9.834	77.4	+4.2274+.0584	+ .009	+ .0005 0	.04	.21	.08
654	Br 401 <i>m</i>	5.6	47 23.810	74.5	+3.7719+.0331	+ .002	+ .0047 0	.09	.32	.15
655	L 903	6.7	47 42.199	83.1	+2.5409-.0001	+ .005	+ .0100 0	.13	.66	.22
656	Lal 5273	5.8	48 1.062	90.7	+4.7171+.0910	+ .019	+ .0238+ 4	.09	.98	.21
657	L 912	7.0	48 56.279	81.5	+2.2728-.0009	+ .005	+ .0037 0	.15	.78	.27
658	Br 405	7.2	49 18.811	57.4	+3.3563+.0164	+ .002	+ .0032 0	.16	.48	.30
659	$\psi$ Fornacis	6.1	49 39.300	85.3	+2.3508-.0007	+ .005	+ .0044 0	.15	.75	.24
660	Br 406	6.2	50 11.221	69.6	+3.3641+.0167	+ .002	- .0006 0	.09	.44	.20
661	$\rho$ Arietis	5.8	50 47.318	66.9	+3.3792+.0164	+ .002	+ .0189- 1	.07	.28	.14
662	Br 410	6.2	50 52.773	66.7	+3.2039+.0115	+ .002	+ .0045 0	.12	.52	.26
663	$\nu$ Hydri	4.8	51 6.605	85.6	-0.4477+.1191	-.159	- .0166+ 5	.09	.96	.25
664	Br 407	5.3	51 12.988	74.6	+3.6303+.0264	+ .001	+ .0008 0	.10	.50	.20
665	$\eta$ Eridani	4.0	51 32.508	76.9	+2.9289+.0050	+ .003	+ .0054- 1	.04	.18	.07
666	Pulk <sub>ss</sub> 415	5.4	51 36.604	93.6	+3.0052+.0068	+ .003	- .0017 0	.13	.81	.19
667	Br 412	6.0	52 21.659	73.8	+3.4251+.0180	+ .002	+ .0156 0	.08	.33	.15
668	$\pi$ Persei	4.7	52 21.868	75.9	+3.8219+.0345	+ .001	+ .0033 0	.11	.32	.15
669	Br 392	5.9	52 46.626	82.1	+7.7758+.4625	+ .440	- .0130- 3	.05	.34	.11
670	Pi 221	5.1	52 51.707	71.6	+3.7030+.0294	+ .001	- .0050 0	.16	.78	.34
671	Br 418	5.6	52 56.953	75.7	+2.6665+.0013	+ .004	+ .0068 0	.11	.42	.18
672	Groomb 590	5.7	53 2.571	81.6	+4.0511+.0459	+ .003	+ .0027 0	.13	.44	.18
673	Br 414 <i>m</i>	7.0	53 9.057	66.8	+3.4322+.0186	+ .002	+ .0041 0	.13	.62	.30
674	$\epsilon$ Arietis <i>m</i>	4.6	53 29.521	71.9	+3.4225+.0184	+ .002	- .0011 0	.04	.22	.10
675	L 945	6.8	53 38.745	91.7	+2.3418-.0004	+ .005	+ .0025 0	.11	.70	.17
676	Br 421	6.1	53 38.791	81.6	+2.6666+.0015	+ .004	+ .0033 0	.13	.52	.20
677	Pulk <sub>ss</sub> 423	5.4	53 39.744	95.1	+3.0188+.0071	+ .003	- .0025 0	.14	.88	.19
678	Pi 220	5.6	53 44.396	61.6	+4.2502+.0567	+ .005	+ .0037 0	.14	.51	.28
679	$\lambda$ Ceti	4.8	54 21.258	70.8	+3.2108+.0118	+ .002	+ .0006 0	.09	.36	.16
680	$\theta^1$ Eridani	3.5	54 28.205	74.0	+2.2741-.0002	+ .005	- .0051+ 1	.09	.40	.17
681	$\theta^2$ Eridani	4.7	54 28.964	76.7	+2.2727-.0002	+ .005	- .0065+ 1	.13	.50	.21
682	Br 423	5.6	54 38.176	69.4	+3.0254+.0073	+ .003	- .0008 0	.13	.50	.24
683	L 960	7.1	54 42.443	83.8	+1.7333+.0050	+ .001	- .0004+ 1	.18	.75	.27
684	$\zeta$ Fornacis	5.8	55 12.017	86.4	+2.6412+.0012	+ .004	+ .0135 0	.14	.75	.22
685	L 953	6.7	55 30.940	88.1	+2.4733+.0001	+ .005	+ .0004 0	.13	.84	.22
686	Br 424	6.1	56 0.510	76.6	+3.5256+.0218	+ .001	- .0009 0	.10	.42	.17
687	Br 396	6.1	56 10.962	67.7	+8.9749+.6684	+ .789	- .0200- 8	.08	.34	.17
688	Br 427	6.1	56 14.983	74.3	+2.9477+.0056	+ .003	+ .0069 0	.15	.62	.27
689	Br 425	7.0	56 30.120	83.0	+3.5485+.0218	+ .001	+ .0179 0	.08	.50	.16
690	$\beta$ Horologii	5.2	56 54.296	84.5	+1.1211+.0214	- .015	+ .0004+ 1	.14	.78	.24
691	$\alpha$ Ceti	2.7	57 3.063	69.6	+3.1317+.0097	+ .002	- .0009 0	.02	.12	.05
692	Br 430	5.9	57 8.207	83.3	+3.1378+.0099	+ .002	+ .0009 0	.12	.40	.16
693	$\epsilon$ Fornacis	6.1	57 18.959	86.1	+2.5873+.0002	+ .004	+ .0215- 3	.11	.72	.21
694	$\gamma$ Persei	3.0	57 33.002	78.4	+4.3185+.0593	+ .003	+ .0004 0	.04	.21	.08
695	$\rho$ Eridani	5.7	57 47.726	67.2	+2.9422+.0057	+ .003	+ .0027 0	.13	.48	.24
696	Br 434	4.2	57 58.982	87.4	+2.6446+.0016	+ .004	- .0104 0	.06	.33	.10
697	Pi 236	5.1	58 1.418	66.4	+4.4772+.0691	+ .005	- .0005+ 1	.14	.56	.28
698	$\rho$ Persei	Var.	58 45.947	80.3	+3.8302+.0330	.000	+ .0115 0	.04	.21	.07
699	Lal 5579	6.0	58 56.725	88.1	+4.9725+.1034	+ .017	- .0005 0	.11	.98	.24
700	Br 435	5.6	2 59 21.736	72.2	+2.9440+.0057	+ .003	+ .0040 0	.12	.51	.23

654  $\beta$  524.  $6^M - 6^M 7 < 0''.5$ ; binary, 30 yrs.  $\pm$ .  
 $\Sigma$  318.  $10^M$  14'' 136°.

669  $\Sigma$  320.  $9^M$  5'' 230°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta\mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
651	-36 5 13.64	83.0	+14.923-.242	-.07	-.054 0	.12	.55	.19	53 G Fornacis $\eta^3$
652	-63 13 17.47	81.0	+14.990-.135	-.05	+.022- 1	.13	.81	.27	
653	+52 21 11.73	76.4	+14.941-.417	-.33	-.006 0	.04	.15	.06	
654	+37 55 48.20	73.8	+14.851-.374	-.24	-.082 0	.09	.30	.14	20 Persei *
655	-31 13 42.52	82.9	+15.010-.255	-.08	+.095- 1	.13	.60	.21	54 G Fornacis
656	+61 6 46.67	94.6	+14.924-.469	-.43	+.027- 2	.08	.97	.17	
657	-41 48 4.05	76.5	+14.814-.230	-.06	-.029 0	.12	.58	.23	36 G Eridani
658	+17 19 41.38	56.1	+14.795-.336	-.17	-.026 0	.14	.45	.28	44 Arietis ( $\rho^1$ )
659	-38 50 45.24	81.6	+14.853-.238	-.07	+.053 0	.12	.63	.22	
660	+17 55 35.26	70.5	+14.753-.338	-.17	-.016 0	.08	.40	.18	45 Arietis ( $\rho^2$ )
661	+17 37 27.83	60.8	+14.526-.342	-.17	-.207- 2	.07	.23	.13	Br 408; 46 Arietis ( $\rho^3$ )
662	+7 58 45.19	63.5	+14.637-.324	-.15	-.091 0	.12	.54	.28	
663	-75 28 31.42	84.0	+14.715+.040	-.20	+.001+ 2	.08	.65	.19	
664	+31 31 53.46	68.9	+14.671-.366	-.21	-.037 0	.10	.38	.18	21 Persei
665	-9 17 45.92	75.3	+14.474-.297	-.12	-.215 0	.04	.17	.07	
666	-4 6 53.88	92.0	+14.637-.304	-.13	-.047 0	.11	.63	.16	
667	+20 16 3.63	69.3	+14.609-.349	-.17	-.031- 2	.08	.36	.17	47 Arietis
668	+39 15 44.77	65.6	+14.590-.387	-.24	-.050 0	.09	.26	.14	
669	+79 1 25.14	80.8	+14.626-.781	-1.54	+.011+ 1	.04	.24	.08	47 H Cephei, Cassiopeiae*.
670	+34 46 56.67	63.2	+14.622-.375	-.22	+.012 0	.14	.67	.34	24 Persei
671	-24 15 47.45	80.2	+14.576-.273	-.09	-.029- 1	.10	.38	.15	4 Eridani (41 G)
672	+46 49 12.61	73.2	+14.620-.411	-.28	+.021 0	.12	.37	.18	
673	+21 13 3.66	68.4	+14.577-.350	-.18	-.015 0	.11	.64	.29	*
674	+20 56 25.46	70.4	+14.564-.349	-.18	-.008 0	.04	.21	.09	*
675	-38 35 33.22	84.2	+14.577-.241	-.07	+.014 0	.13	.58	.20	62 G Fornacis
676	-24 0 29.88	78.3	+14.621-.274	-.09	+.058 0	.12	.46	.19	6 Eridani (44 G)
677	-3 10 53.05	92.5	+14.503-.308	-.13	-.059 0	.11	.65	.16	
678	+51 57 14.62	52.3	+14.530-.433	-.32	-.027 0	.11	.40	.26	$\Sigma 331. 7^m 12'' 85^\circ$
679	+8 30 32.24	71.0	+14.514-.329	-.15	-.006 0	.08	.33	.15	
680	-40 42 18.86	73.9	+14.547-.234	-.06	+.034 0	.08	.36	.15	} 8.3'' 85°
681	-40 42 18.28	82.6	+14.532-.234	-.06	+.020+ 1	.12	.64	.21	
682	-2 51 46.46	70.7	+14.491-.310	-.13	-.012 0	.11	.43	.20	5 Eridani
683	-55 24 53.87	80.4	+14.545-.181	-.04	+.046 0	.14	.60	.23	29 G Horologii
684	-25 40 29.48	80.6	+14.560-.274	-.09	+.091- 1	.13	.63	.23	
685	-32 54 19.69	83.1	+14.452-.256	-.08	+.002 0	.12	.61	.20	66 G Fornacis
686	+26 3 59.47	73.5	+14.413-.363	-.19	-.007 0	.09	.39	.17	49 Arietis
687	+81 5 2.24	71.5	+14.411-.914	-2.15	+.002+ 2	.09	.37	.17	$\Sigma 327. 11^m 25'' 282^\circ$
688	-8 3 25.20	71.6	+14.341-.306	-.12	-.064- 1	.11	.45	.20	8 Eridani $\rho^1$
689	+26 13 9.03	80.2	+14.222-.368	-.19	-.168- 2	.07	.39	.14	51 Arietis
690	-64 28 7.91	86.0	+14.393-.120	-.05	+.028 0	.11	.81	.22	
691	+3 41 50.84	66.7	+14.279-.325	-.14	-.077 0	.02	.11	.05	
692	+3 57 30.55	78.9	+14.359-.326	-.14	+.007 0	.11	.37	.16	93 Ceti
693	-28 28 27.09	79.1	+13.932-.272	-.08	-.408- 2	.11	.50	.19	
694	+53 6 53.44	76.8	+14.317-.446	-.33	-.009 0	.04	.16	.06	
695	-8 4 42.66	65.7	+14.328-.307	-.12	+.017 0	.10	.37	.19	9 Eridani $\rho^2$ *
696	-24 0 59.18	85.0	+14.253-.275	-.09	-.047+ 1	.06	.30	.10	11 Eridani $\tau^3$ (56 G)
697	+56 18 46.99	52.9	+14.368-.463	-.36	+.071 0	.12	.45	.28	k Persei
698	+38 27 10.22	79.3	+14.143-.400	-.24	-.108- 1	.04	.29	.10	Var., $3^m 4$ to $4^m 2$
699	+63 40 8.91	89.0	+14.235-.516	-.48	-.005 0	.10	.82	.20	
700	-7 59 31.10	67.7	+14.240-.309	-.11	+.025 0	.09	.35	.18	10 Eridani $\rho^3$

673  $\beta$  525.  $7^m 8-7^m 8 < 1''$ ; slow binary.674  $\Sigma$  333.  $5^m 2-5^m 5$   $1'' 4$ ; slow binary.695  $\beta$  11.  $10^m 2'' 4$   $84^\circ$ .

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
701	L 974	5.9	2 59 30.802	82.6			+2.0508+.0011	+ .004	+ .0028 0	.13	.88	.28
702	Br 433 <i>m</i>	5.6	2 59 34.580	62.6			+3.5098+.0208	.000	+ .0003 0	.14	.50	.27
703	L 976	7.0	3 0 20.094	83.1			+2.1485+.0006	+ .004	- .0007 0	.15	.69	.24
704	Paris 3721	6.0	0 54.207	85.5			+3.2880+.0136	+ .001	+ .0001 0	.11	.57	.17
705	Br 417	5.0	1 5.271	79.4			+6.3936+.2379	+ .104	+ .0070- 3	.07	.39	.14
706	$\mu$ Horologii	5.3	1 15.382	83.3			+1.4083+.0119	- .005	- .0099 0	.14	.69	.23
707	Pulk <sub>ss</sub> 440	5.8	1 36.684	91.7			+2.0644+.0062	+ .003	+ .0001 0	.12	.78	.18
708	$\beta$ Persei	Var.	1 39.585	73.6			+3.8879+.0355	.000	+ .0006 0	.03	.16	.07
709	Br 439	6.5	1 47.739	68.7			+3.3701+.0161	+ .001	- .0024 0	.10	.39	.19
710	$\epsilon$ Persei	4.2	1 50.800	75.3			+4.3064+.0515	.000	+ .1292+ 9	.04	.21	.09
711	$\theta$ Hydri	5.7	2 2.910	76.5			+0.0950+.0715	- .077	+ .0089 0	.07	.45	.17
712	Br 440	6.6	2 40.892	67.9			+3.3933+.0166	+ .001	+ .0027 0	.12	.42	.22
713	$\kappa$ Persei	4.0	2 44.890	62.4			+4.0284+.0409	- .001	+ .0170 0	.08	.30	.16
714	Pi 267	6.3	3 34.522	79.7			+2.5631+.0011	+ .004	+ .0056 0	.12	.51	.19
715	Br 441	5.9	3 35.678	73.0			+3.5999+.0234	.000	+ .0022 0	.13	.44	.21
716	Pi 264	7.3	3 53.257	79.2			+3.4057+.0169	+ .001	+ .0025 0	.12	.52	.20
717	$\omega$ Persei	4.8	4 49.896	67.3			+3.8581+.0335	- .001	- .0019 0	.11	.42	.21
718	$\delta$ Arietis	4.6	5 54.546	75.2			+3.4233+.0171	.000	+ .0107 0	.03	.16	.06
719	Br 447	5.9	6 16.575	65.2			+3.5649+.0218	- .001	+ .0006 0	.12	.44	.23
720	Pi 6	5.9	7 7.836	74.7			+3.1773+.0107	+ .001	- .0023 0	.18	.78	.33
721	Br 431	5.7	7 37.183	78.9			+7.4470+.3558	+ .190	+ .0203+ 1	.04	.26	.09
722	Br 450	5.3	7 40.186	76.2			+3.0591+.0077	+ .002	+ .0135 0	.07	.30	.12
723	$\alpha$ Fornacis	3.9	7 49.390	79.4			+2.5474+.0018	+ .004	+ .0250+ 3	.06	.28	.10
724	Groomb 627	6.0	8 8.062	79.3			+4.5651+.0690	.000	+ .0001 0	.11	.48	.19
725	L 1023	7.0	8 9.129	82.7			+1.4954+.0099	- .004	- .0003 0	.18	.78	.28
726	Br 402	5.9	8 34.80	77.0			+13.406+.1.637		+ .051- 35	.06	.34	.13
727	Br 445 <i>m</i>	6.7	8 45.804	74.9			+5.2017+.1127	+ .010	- .0011 0	.10	.57	.22
728	L 1016 <i>m</i>	6.3	8 55.016	87.2			+2.1068+.0013	+ .003	+ .0085- 1	.11	.57	.17
729	Groomb 631	5.3	9 3.032	76.8			+4.2659+.0516	- .002	- .0001 0	.12	.51	.21
730	$\zeta$ Arietis	4.9	9 9.103	72.5			+3.4412+.0176	.000	- .0017 0	.05	.26	.11
731	Pi 9	5.7	9 14.891	78.6			+3.6407+.0242	- .001	- .0030 0	.16	.78	.30
732	L 1015	6.5	9 27.692	83.2			+2.5031+.0012	+ .004	+ .0025 0	.14	.78	.25
733	L 1040	6.0	10 1.112	79.8			+1.5153+.0094	- .004	+ .0015 0	.13	.60	.22
734	Brisb 508	7.2	10 3.557	89.7			+2.2673+.0008	+ .004	- .0018 0	.13	.81	.21
735	Groomb 628	6.9	10 29.690	82.6			+5.7007+.1521	+ .023	+ .0066+ 1	.10	.52	.17
736	Br 456	7.2	10 40.074	70.1			+2.9145+.0055	+ .002	+ .0011 0	.11	.40	.19
737	L 1020	7.2	10 44.148	85.6			+2.3592+.0009	+ .004	+ .0030 0	.10	.60	.18
738	L 1105	5.9	10 56.044	83.2			-2.1726+.2713	- .397	+ .0240+ 4	.10	.87	.25
739	$\zeta$ Eridani	5.0	10 58.525	70.5			+2.9120+.0055	+ .002	- .0003 0	.06	.26	.12
740	Br 453	5.5	11 3.460	64.2			+4.0190+.0388	- .003	+ .0025 0	.14	.48	.26
741	Br 448	4.8	11 11.072	70.2			+5.2252+.1121	+ .008	+ .0018 0	.09	.40	.18
742	Br 452	5.3	11 30.234	74.5			+4.2510+.0497	- .004	+ .0034 0	.09	.39	.17
743	Pi 26	6.4	11 44.916	65.8			+2.9058+.0054	+ .002	- .0001 0	.11	.50	.25
744	Br 455	5.2	12 0.473	71.4			+4.2479+.0494	- .004	+ .0032 0	.09	.38	.17
745	L 1034	6.9	12 3.971	85.0			+2.4723+.0012	+ .003	+ .0015 0	.13	.80	.24
746	Pi 23	5.0	12 28.437	72.2			+3.7403+.0273	- .002	+ .0004 0	.11	.68	.28
747	L 1057	7.2	12 36.355	81.7			+1.3590+.0131	- .007	+ .0029 0	.16	.78	.28
748	L 1045	7.3	12 37.619	88.8			+2.3488+.0010	+ .004	+ .0014 0	.13	.75	.21
749	Br 461	5.8	13 15.319	72.0			+3.0663+.0078	+ .002	+ .0165 0	.08	.30	.14
750	Br 466 <i>m</i>	5.1	3 13 56.862	81.7			+2.6513+.0024	+ .003	+ .0012 0	.09	.52	.18

702  $\Sigma$  346.  $6^{\text{M}}_3$ - $6^{\text{M}}_3$  0''5 271°;  $11^{\text{M}}$  5'' 357°.  
 721  $\beta$  1176.  $12^{\text{M}}_5$  1''2 273°.

722 h 663.  $11^{\text{M}}_5$  5'' 250°.  
 723 h 3555.  $6^{\text{M}}_9$  1''5 332°; rel. mot.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
701	-47 22 1.26	80.5	+14.190-.217	-.05	-.015 0	.10	.63	.21	58 G Eridani
702	+24 51 57.53	61.1	+14.187-.367	-.19	-.014 0	.11	.43	.24	52 Arietis *
703	-44 17 18.98	78.4	+14.188-.228	-.05	+.034 0	.12	.52	.20	
704	+12 48 5.34	86.6	+14.049-.346	-.16	-.070 0	.11	.60	.18	
705	+74 0 49.48	75.8	+14.025-.669	-.91	-.083-1	.06	.27	.11	
706	-60 7 32.32	80.1	+14.031-.151	-.04	-.066+1	.11	.51	.19	
707	-6 28 30.30	89.8	+14.077-.314	-.12	+.002 0	.12	.67	.18	
708	+40 34 13.50	67.7	+14.067-.410	-.24	-.005 0	.04	.16	.08	2 <sup>M</sup> 2 to 3 <sup>M</sup> 7 <i>Algol.</i>
709	+17 29 38.44	66.4	+14.067-.356	-.16	+.003 0	.09	.37	.18	53 Arietis
710	+49 13 52.72	75.6	+13.981-.468	-.30	-.080-14	.04	.19	.08	
711	-72 17 34.36	77.5	+14.084-.017	-.13	+.036-1	.06	.43	.15	
712	+18 24 40.46	65.6	+13.990-.360	-.17	-.018 0	.11	.39	.20	54 Arietis
713	+44 28 42.79	58.9	+13.847-.428	-.27	-.157-2	.07	.24	.14	
714	-28 12 52.31	81.7	+13.937-.275	-.08	-.015-1	.11	.47	.17	69 G Fornacis
715	+28 41 42.20	69.6	+13.926-.383	-.20	-.025 0	.11	.42	.20	55 Arietis
716	+18 59 56.03	71.4	+13.929-.363	-.17	-.004 0	.11	.41	.19	
717	+39 13 54.31	64.2	+13.876-.412	-.23	+.003 0	.10	.34	.18	
718	+19 20 54.73	70.8	+13.799-.369	-.17	-.006-1	.03	.18	.08	
719	+26 52 47.79	61.2	+13.765-.383	-.19	-.017 0	.10	.38	.21	56 Arietis
720	+6 17 3.02	63.6	+13.715-.343	-.14	-.012 0	.16	.59	.32	
721	+77 22 2.88	78.6	+13.647-.801	-1.29	-.049-2	.04	.25	.09	48 H Cephei *
722	-1 34 12.19	72.7	+13.638-.333	-.12	-.055-2	.06	.27	.12	94 Ceti *
723	-29 22 52.38	78.3	+14.331-.280	-.08	+.648-3	.06	.28	.11	12 Eridani *
724	+56 46 4.84	80.1	+13.667-.493	-.37	+.004 0	.11	.38	.16	
725	-58 11 13.01	79.2	+13.674-.165	-.04	+.012 0	.14	.60	.23	36 G Horologii
726	+84 33 26.56	79.1	+13.503-1.444		-.132-6	.08	.40	.15	
727	+65 17 15.98	72.5	+13.640-.562	-.52	+.017 0	.09	.44	.19	*
728	-44 47 40.63	85.8	+13.608-.232	-.05	-.005-1	.09	.47	.15	71 G Eridani *
729	+50 34 0.19	77.6	+13.587-.463	-.30	-.017 0	.11	.43	.18	
730	+20 40 26.05	68.0	+13.523-.374	-.17	-.075 0	.04	.20	.09	
731	+30 11 3.58	71.5	+13.587-.395	-.20	-.005 0	.15	.60	.28	
732	-30 10 38.61	78.6	+13.597-.275	-.08	+.019 0	.13	.64	.24	76 G Fornacis
733	-57 41 45.30	82.3	+13.546-.169	-.04	+.004 0	.11	.58	.20	38 G Horologii
734	-39 10 51.36	83.3	+13.491-.249	-.06	-.049 0	.13	.64	.22	77 G Fornacis
735	+69 21 53.84	73.9	+13.513-.620	-.65	+.001-1	.08	.35	.15	
736	-9 8 25.48	71.1	+13.495-.320	-.11	-.005 0	.09	.41	.18	
737	-35 55 46.07	79.3	+13.518-.260	-.06	+.022 0	.11	.53	.20	79 G Fornacis
738	-79 22 8.23	83.0	+13.569+.226	-.55	+.086-3	.09	.75	.22	55 G Hydri *
739	-9 11 28.14	63.1	+13.525-.320	-.11	+.045 0	.07	.25	.14	
740	+43 39 27.05	57.7	+13.448-.440	-.26	-.027 0	.12	.40	.24	30 Persei
741	+65 17 12.01	63.4	+13.462-.570	-.52	-.005 0	.07	.29	.15	
742	+49 51 20.78	67.5	+13.416-.466	-.29	-.030 0	.09	.28	.15	29 Persei
743	-9 31 28.85	68.4	+13.480-.320	-.11	+.050 0	.10	.47	.22	14 Eridani
744	+49 43 46.23	63.7	+13.387-.466	-.29	-.027 0	.09	.26	.15	31 Persei
745	-31 11 47.53	79.9	+13.420-.274	-.07	+.010 0	.13	.75	.26	80 G Fornacis
746	+33 51 24.63	70.8	+13.371-.412	-.21	-.012 0	.10	.53	.23	
747	-59 52 58.77	78.4	+13.393-.154	-.04	+.019 0	.12	.60	.22	1 G Reticuli
748	-36 3 32.61	82.4	+13.381-.261	-.06	+.008 0	.12	.53	.19	81 G Fornacis
749	-1 17 40.12	69.2	+13.285-.342	-.12	-.047-2	.08	.29	.14	95 Ceti *
750	-22 52 36.19	76.4	+13.297-.295	-.08	+.010 0	.09	.40	.16	15 Eridani *

727 O $\Sigma$  52. 6<sup>M</sup>7-7<sup>M</sup>3 0''7 118°; slow binary.728 Innes. 6<sup>M</sup>5-7<sup>M</sup>0 1'' 190°; 10<sup>M</sup> 2''5 220°.738 8<sup>M</sup> 15'' 225°.749 Clark 2. 10<sup>M</sup> < 1''; rapid binary.750 See 23. 7<sup>M</sup>5 0''3 284°.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		M	h m s		s s	s	s	"	"	"
751	Br 460	6.1	3 13 57.338	78.1	+3.5743+.0212	-.002	-.0016- I	.12	.36	.16
752	$\kappa$ Ceti	5.1	14 6.024	74.8	+3.1426+.0095	+.001	+.0177+ I	.07	.33	.14
753	Paris 3065	6.0	14 7.164	93.6	+2.7373+.0031	+.003	+.0083 0	.14	.98	.21
754	L 1058	6.1	14 11.047	91.0	+1.9538+.0028	+.002	-.0015 0	.13	.70	.18
755	Pi 32	4.6	14 17.186	67.8	+3.6204+.0227	-.002	-.0002 0	.16	.69	.33
756	Br 462	6.6	14 29.795	71.8	+3.5479+.0202	-.002	+.0015 0	.15	.52	.25
757	Br 458	5.0	14 44.486	61.6	+4.0022+.0374	-.004	-.0052 0	.14	.40	.24
758	Pi 28	6.3	14 46.788	73.0	+4.2356+.0471	-.005	+.0200+ I	.14	.52	.24
759	Br 469	3.9	15 4.110	81.8	+2.6674+.0026	+.003	+.0036 0	.06	.34	.12
760	Br 449	7.4	15 5.357	66.5	+6.3423+.2060	+.039	+.0123 0	.11	.69	.32
761	Br 465	5.4	15 27.110	74.8	+3.4565+.0174	-.001	+.0021 0	.06	.39	.15
762	L 1074	5.7	15 35.800	80.1	+1.2941+.0181	-.013	+.1947- II	.16	.70	.27
763	Br 408	5.8	15 52.884	64.7	+3.1343+.0094	+.001	+.0036 0	.14	.52	.28
764	L 1060	4.4	15 56.157	79.6	+2.3994-.0005	+.003	+.2824- 12	.08	.44	.16
765	Pi 27	5.6	15 59.349	74.8	+5.1631+.1033	-.001	+.0017+ I	.12	.52	.22
766	$\zeta$ Reticuli	5.3	16 2.363	83.9	+1.2944+.0182	-.014	+.1924- 10	.18	.75	.27
767	Pi 37	5.4	16 7.884	74.9	+4.2302+.0471	-.005	+.0029 0	.15	.54	.24
768	Br 467	5.7	16 11.561	76.9	+3.5934+.0215	-.002	+.0012 0	.11	.44	.18
769	L 1064	6.9	16 28.076	85.0	+2.5611+.0019	+.003	+.0029 0	.13	.75	.23
770	Br 470	5.2	16 59.820	67.4	+3.4453+.0171	-.002	-.0033 0	.12	.39	.20
771	L 1067	5.8	17 1.912	83.6	+2.6209+.0023	+.003	-.0007 0	.13	.98	.29
772	$\alpha$ Persei	1.7	17 10.820	70.8	+4.2616+.0482	-.006	+.0028 0	.02	.11	.05
773	L 1071	6.5	17 58.345	85.4	+2.5797+.0021	+.003	+.0018 0	.15	1.04	.30
774	Dpt 333	5.9	18 14.360	92.1	+3.7404+.0261	-.003	+.0029 0	.12	.78	.18
775	Br 472	5.8	18 24.037	65.6	+3.5344+.0194	-.002	+.0010 0	.10	.40	.21
776	$\iota$ Hydri	5.7	18 26.654	85.3	-1.5826+.1927	-.239	+.0347- 3	.11	.70	.21
777	Br 474	6.2	18 40.933	69.2	+3.4525+.0171	-.002	+.0003 0	.11	.42	.20
778	$\sigma$ Tauri	3.6	19 25.843	78.1	+3.2238+.0114	.000	-.0045 0	.03	.20	.07
779	L 1081	6.9	19 43.750	84.2	+2.4095+.0014	+.003	+.0029 0	.11	.81	.24
780	Br 476	5.1	20 56.310	75.1	+4.2448+.0461	-.007	+.0025 0	.11	.51	.21
781	Pi 51	4.4	20 58.022	82.0	+4.8234+.0772	-.008	+.0005 0	.05	.26	.09
782	Pi 60	6.9	21 20.656	82.3	+3.4185+.0159	-.002	+.0038 0	.11	.54	.19
783	Pi 56	5.8	21 41.904	71.4	+4.2829+.0475	-.007	+.0044 0	.15	.56	.26
784	$\xi$ Tauri	3.7	21 44.903	71.0	+3.2466+.0116	.000	+.0040 0	.04	.24	.10
785	L 1099	7.9	21 48.876	93.9	+2.2579+.0015	+.003	+.0101 0	.15	1.11	.23
786	Pi 54	4.7	21 55.483	71.6	+4.7582+.0726	-.008	+.0014 0	.09	.39	.17
787	Pi 62	5.9	22 3.744	80.9	+3.7571+.0260	-.004	+.0031 0	.16	.96	.32
788	L 1101	6.6	22 3.967	83.2	+2.3190+.0014	+.003	+.0036 0	.11	.60	.20
789	L 1096	6.2	22 9.173	80.1	+2.5300+.0021	+.003	-.0013 0	.15	.86	.30
790	Br 478	4.8	22 12.850	56.1	+4.2694+.0467	-.008	+.0030 0	.14	.44	.27
791	Pi 57	5.2	22 22.435	72.2	+4.5490+.0609	-.008	-.0039 0	.10	.40	.18
792	Br 482	6.2	22 35.712	71.6	+3.5002+.0179	-.002	+.0006- I	.10	.39	.18
793	L 1107	6.7	22 37.342	87.2	+2.1442+.0020	+.002	+.0014 0	.12	.69	.20
794	Paris 4113	6.1	23 14.801	93.2	+2.8605+.0049	+.002	+.0014 0	.13	.78	.18
795	$\sigma$ Persei	4.7	23 31.268	83.3	+4.2104+.0438	-.008	+.0006 0	.05	.27	.09
796	Br 480	6.1	23 33.080	76.5	+4.2176+.0439	-.008	+.0032 0	.10	.40	.17
797	L 1132	6.5	23 36.663	80.1	+0.2305+.0535	-.046	+.0041 0	.16	.66	.26
798	L 1108	5.8	23 40.947	87.8	+2.3240+.0015	+.003	+.0062 0	.12	.62	.18
799	Br 471	6.6	24 14.326	77.5	+6.4796+.2041	+.011	+.0054 0	.08	.46	.17
800	Pulk. 501	5.8	3 24 52.557	90.0	+2.8306+.0046	+.002	-.0008 0	.09	.81	.18

753 h 3565. 8<sup>m</sup> 7 6" 116°.759 Jacob. 10<sup>m</sup> 6" 288°.

764 Annual Parallax, ".15.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10	Remarks.
751	+26 42 34.17	74.0	+13.208-.396	-.18	-.078 0	.11 .32 .16	59 Arietis
752	+ 3 0 12.67	73.0	+13.370-.351	-.13	+.094- 2	.07 .28 .12	96 Ceti ( $\kappa^1$ )
753	-18 55 21.46	92.8	+13.255-.306	-.09	-.021- 1	.15 1.04 .23	80 G Eridani *
754	-48 7 5.47	88.2	+13.288-.219	-.05	+.017 0	.11 .55 .16	40 G Horologii
755	+28 41 9.13	57.5	+13.238-.401	-.19	-.027 0	.13 .60 .34	
756	+25 18 8.95	68.0	+13.158-.394	-.18	-.093 0	.12 .45 .22	60 Arietis
757	+42 58 5.28	55.5	+13.225-.443	-.25	-.010+ 1	.12 .39 .24	32 Persei $l$
758	+48 42 41.80	66.4	+13.166-.472	-.28	-.066- 2	.13 .43 .23	
759	-22 7 18.49	81.2	+13.255-.298	-.08	+.042 0	.06 .35 .12	16 Eridani $\tau^4$ *
760	+72 51 8.91	62.6	+13.169-.702	-.83	-.043- 1	.10 .48 .25	
761	+20 47 11.85	71.0	+13.158-.385	-.16	-.030 0	.05 .24 .11	61 Arietis $\tau^1$
762	-62 57 28.12	80.0	+13.855-.167	-.05	+.677-20	.13 .60 .22	3 G Reticuli $\zeta^1$
763	+ 3 18 55.58	60.7	+13.131-.351	-.13	-.029 0	.13 .51 .28	97 Ceti $\kappa^2$
764	-43 27 8.31	79.0	+13.904-.296	-.05	+.748-27	.08 .39 .14	82 Eridani $e$ *
765	+64 13 43.75	73.7	+13.169-.574	-.48	+.016 0	.10 .42 .18	Magn's. discordant
766	-62 53 15.81	85.9	+13.841-.168	-.05	+.692-20	.15 .73 .23	L 1077. 4 G Retic $\zeta^2$
767	+48 51 19.66	64.2	+13.122-.472	-.28	-.021 0	.14 .44 .25	
768	+27 14 54.42	75.3	+13.127-.401	-.18	-.012 0	.10 .38 .17	62 Arietis
769	-26 58 3.63	82.8	+13.159-.288	-.08	+.039 0	.13 .71 .23	86 G Fornacis
770	+20 23 4.05	63.6	+13.069-.386	-.16	-.017 0	.10 .39 .21	63 Arietis $\tau^2$
771	-23 59 38.33	78.3	+13.051-.295	-.08	-.033 0	.14 .93 .33	83 G Eridani
772	+49 30 19.18	64.5	+13.046-.477	-.29	-.028 0	.02 .11 .06	
773	-25 56 43.91	78.8	+13.038-.292	-.08	+.017 0	.14 .94 .32	87 G Fornacis
774	+33 10 52.86	88.1	+12.979-.421	-.20	-.024 0	.12 .51 .16	$\Sigma$ 382. 9 <sup>m</sup> 5 4" 153°
775	+24 22 11.44	64.3	+12.936-.398	-.17	-.057 0	.08 .35 .18	64 Arietis
776	-77 45 12.41	85.5	+13.056+.166	-.40	+.066- 4	.10 .65 .19	
777	+20 26 54.99	65.8	+12.965-.389	-.16	-.010 0	.10 .38 .20	65 Arietis
778	+ 8 40 37.08	73.8	+12.846-.364	-.14	-.078 0	.04 .20 .08	
779	-33 3 43.11	78.0	+12.898-.275	-.06	-.006 0	.12 .77 .27	88 G Fornacis
780	+48 42 51.31	66.4	+12.803-.482	-.28	-.020 0	.10 .39 .20	
781	+59 35 30.83	72.9	+12.820-.546	-.40	-.001 0	.05 .21 .09	$\Sigma$ 335. 9 <sup>m</sup> 0 2" 4 160°
782	+18 24 22.98	72.0	+12.791-.389	-.16	-.005 0	.15 .55 .26	
783	+49 30 4.32	61.2	+12.748-.487	-.29	-.024 0	.14 .49 .28	
784	+ 9 23 2.57	70.8	+12.727-.371	-.14	-.041 0	.04 .22 .10	
785	-38 39 51.54	89.7	+12.799-.260	-.06	+.035- 1	.15 .79 .22	
786	+58 31 55.12	65.0	+12.756-.541	-.38	.000 0	.08 .32 .17	
787	+33 27 39.61	79.4	+12.691-.428	-.20	-.056 0	.18 .83 .31	
788	-36 16 16.32	80.1	+12.749-.267	-.06	+.002 0	.10 .51 .18	89 G Fornacis $\chi^1$
789	-27 40 8.24	74.7	+12.795-.290	-.07	+.054 0	.15 1.01 .39	Erid. 90 G Fornacis
790	+49 9 45.07	46.0	+12.704-.486	-.28	-.033 0	.12 .35 .25	34 Persei *
791	+55 6 21.37	64.4	+12.724-.517	-.34	-.002 0	.09 .32 .17	$\Sigma$ 390. 9 <sup>m</sup> 2 15" 159°
792	+22 27 33.86	69.8	+12.600-.400	-.16	-.111 0	.09 .36 .17	66 Arietis *
793	-41 59 14.70	83.2	+12.738-.247	-.06	+.029 0	.10 .54 .18	89 G Eridani
794	-11 37 57.99	88.4	+12.615-.329	-.10	-.052 0	.13 .69 .20	
795	+47 39 0.14	74.9	+12.670-.482	-.27	+.022 0	.06 .24 .10	
796	+47 45 34.82	75.6	+12.612-.483	-.27	-.034 0	.09 .39 .16	
797	-69 58 33.42	77.9	+12.663-.032	-.10	+.021 0	.13 .54 .22	58 G Hydri
798	-36 1 44.07	84.8	+12.630-.269	-.06	-.008- 1	.10 .51 .16	91 G Fornacis $\chi^2$
799	+73 0 29.21	77.7	+12.573-.741	-.84	-.026- 1	.07 .38 .14	Groomb 669
800	-13 1 9.52	88.2	+12.544-.327	-.09	-.012 0	.10 .84 .21	Lal 6476

790  $\beta$  1179. 12<sup>m</sup> 0" 7 164°.792  $\beta$  878. 12<sup>m</sup> 1" 75°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s	s	s			$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
801	Br 485	5.3	3	24	56.468	58.4	+3.2742+.0122	.000	-.0006	0	.12	.45	.26
802	Br 483	5.6		25	4.480	68.0	+4.2201+.0435	-.008	+.0027	0	.13	.46	.24
803	L 1139	6.2		25	8.230	84.2	+0.2523+.0523	-.043	-.0031+	4	.15	.80	.26
804	Br 486	4.4		25	21.041	78.6	+3.3067+.0129	-.001	+.0012	0	.03	.20	.07
805	Br 484	5.4		25	30.447	57.1	+4.1382+.0400	-.008	-.0048-	1	.14	.38	.24
806	Br 487	4.8		25	39.276	77.3	+2.9739+.0066	+.002	+.0006	0	.07	.30	.12
807	Pulk <sub>ss</sub> 503	6.0		26	17.837	89.8	+3.8082+.0272	-.005	-.0006	0	.12	.69	.18
808	L 1125	6.3		26	39.779	78.8	+2.1376+.0018	+.002	-.0005-	2	.14	.59	.23
809	Groomb 703	6.0		26	59.288	68.8	+3.9386+.0316	-.007	-.0008	0	.18	.70	.34
810	Br 489	5.9		27	11.233	72.9	+3.2412+.0113	-.001	+.0018	0	.10	.34	.16
811	L 1130	6.3		27	24.496	88.6	+1.9248+.0036	+.001	+.0082	0	.15	.72	.22
812	$\kappa$ Reticuli	4.9		27	37.810	85.5	+1.0362+.0228	-.015	+.0542-	2	.14	.80	.24
813	L 1128	7.4		28	8.000	89.2	+2.5853+.0026	+.003	+.0033	0	.11	1.20	.27
814	$\epsilon$ Eridani	3.7		28	13.126	74.0	+2.8247+.0056	+.002	-.0657+	1	.03	.18	.07
815	Br 491 <i>m</i>	6.1		28	31.168	70.4	+3.5462+.0186	-.003	+.0013	0	.10	.42	.19
816	Br 495	4.3		29	22.251	82.5	+2.6489+.0030	+.003	+.0028	0	.07	.27	.10
817	$\psi$ Persei	4.4		29	22.851	72.0	+4.2452+.0431	-.010	+.0035	0	.08	.27	.13
818	L 1144	5.8		29	35.768	82.4	+1.7845+.0053	.000	+.0066+	1	.14	.75	.25
819	L 1164	6.0		29	50.080	80.8	+0.5977+.0352	-.026	+.0012	0	.13	.78	.26
820	L 1138	6.8		30	33.049	76.2	+2.4045+.0020	+.002	+.0013	0	.16	1.00	.38
821	Br 494	7.0		31	5.094	65.6	+3.5206+.0177	-.003	-.0008	0	.09	.44	.21
822	Pulk <sub>ss</sub> 510	5.9		31	11.696	93.1	+2.8570+.0051	+.001	+.0018	0	.13	.81	.19
823	Br 496	6.4		31	39.368	73.2	+3.0758+.0080	.000	-.0014-	1	.08	.32	.14
824	Br 498	5.5		31	44.021	73.8	+2.7317+.0038	+.002	+.0017	0	.09	.48	.20
825	Br 497	4.4		31	46.123	70.4	+3.0583+.0076	.000	-.0156-	2	.07	.24	.12
826	Pi 94	5.5		33	28.377	80.0	+5.1666+.0896	-.020	-.0009	0	.05	.34	.11
827	L 1161	4.6		33	30.388	79.0	+2.1522+.0023	+.002	-.0007	0	.10	.46	.18
828	Brisb 593	5.8		33	37.106	78.6	-2.2950+.2315	-.253	-.0040-	3	.07	.64	.21
829	Pi 103	6.5		33	46.309	75.7	+3.3875+.0141	-.003	+.0030	0	.10	.48	.19
830	Groomb 642	6.0		33	55.08	74.6	+19.993+.3.315		+.164+.64		.05	.28	.11
831	Br 502	6.2		34	4.852	70.8	+2.9594+.0062	+.001	-.0010-	1	.10	.38	.18
832	Pi 97	6.1		34	28.104	75.7	+4.9097+.0737	-.018	.0000	0	.10	.48	.19
833	Pi 104	5.7		34	37.138	67.1	+3.8930+.0283	-.008	+.0019	0	.13	.78	.36
834	$\tau$ Fornacis	6.3		34	38.038	84.3	+2.4943+.0024	+.002	+.0009	0	.09	.54	.16
835	Br 503	6.0		34	38.561	61.4	+3.1214+.0089	.000	-.0023	0	.14	.51	.28
836	Br 500	6.2		34	47.820	72.0	+3.5758+.0188	-.004	+.0011	0	.07	.36	.15
837	Br 505	5.6		35	41.242	71.8	+2.9676+.0065	+.001	-.0001	0	.12	.54	.24
838	$\delta$ Persei	3.0		35	48.124	73.9	+4.2534+.0414	-.012	+.0032	0	.03	.14	.06
839	Br 501	5.1		36	2.188	66.2	+3.7928+.0249	-.007	+.0008	0	.14	.51	.26
840	Pi 102	6.1		36	32.769	76.6	+5.6265+.1154	-.027	+.0164-	1	.09	.48	.18
841	Br 504	5.7		36	32.797	73.0	+3.4534+.0155	-.003	+.0001	0	.09	.40	.18
842	Pi 105	5.2		37	17.384	79.8	+5.2063+.0888	-.024	+.0006	0	.10	.45	.17
843	Br 507	6.5		38	0.178	66.7	+3.4629+.0154	-.004	+.0085	0	.12	.44	.22
844	$\sigma$ Persei	3.8		38	2.747	73.0	+3.7524+.0233	-.006	+.0008	0	.05	.34	.14
845	Pulk <sub>ss</sub> 529	5.6		38	2.981	94.8	+3.8707+.0268	-.008	+.0035	0	.14	.78	.18
846	$\delta$ Fornacis	5.1		38	16.243	80.6	+2.3847+.0023	+.002	-.0004	0	.10	.51	.18
847	$\nu$ Persei	3.9		38	23.857	78.4	+4.0615+.0334	-.010	-.0008	0	.04	.24	.09
848	$\delta$ Eridani	3.7		38	27.437	72.6	+2.8719+.0062	+.001	-.0063+	4	.04	.22	.09
849	Pi 138	5.9		38	47.192	71.3	+2.8630+.0052	+.001	-.0012	0	.12	.56	.24
850	Radcl 1042	5.5	3	38	49.387	81.4	+6.1707+.1536	-.036	+.0075-	2	.10	.64	.21

813 Close double?

815  $\Sigma$  412.  $6^M 8-6^M 9 < 1''$ ; binary;  $10^M 22'' 59^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
801	+10 59 36.29	56.4	+12.533-.377	-.14	-.019 0	.12	.45	.27	4 Tauri s
802	+47 40 57.06	65.0	+12.514-.486	-.27	-.029 0	.12	.45	.24	
803	-69 41 9.69	82.9	+12.617-.034	-.10	+.079 0	.12	.64	.21	59 G Hydri
804	+12 35 38.43	74.4	+12.520-.382	-.14	-.004 0	.04	.20	.08	5 Tauri f
805	+45 43 4.90	56.7	+12.444-.476	-.26	-.069+ 1	.12	.37	.23	36 Persei
806	- 5 25 4.72	71.6	+12.513-.344	-.11	+.010 0	.06	.25	.12	17 Eridani
807	+35 7 17.88	87.2	+12.451-.440	-.20	-.008 0	.12	.58	.18	
808	-41 42 25.92	70.6	+12.257-.250	-.05	-.177 0	.11	.42	.20	100 G Eridani
809	+39 33 44.06	64.2	+12.368-.456	-.23	-.044 0	.17	.60	.32	
810	+ 9 2 7.96	70.8	+12.358-.377	-.13	-.040 0	.09	.32	.16	6 Tauri t
811	-47 42 59.97	83.2	+12.399-.227	-.04	+.016- 1	.11	.50	.17	44 G Horologii
812	-63 17 23.84	84.6	+12.737-.130	-.05	+.369- 6	.11	.64	.20	
813	-24 57 18.96	88.3	+12.366-.303	-.08	+.033 0	.10	1.29	.30	95 G Fornacis*
814	- 9 47 48.19	77.9	+12.340-.322	-.10	+.013+ 8	.03	.19	.07	
815	+24 7 44.44	64.9	+12.279-.414	-.16	-.027 0	.08	.29	.15	7 Tauri *
816	-21 58 5.38	82.3	+12.227-.311	-.08	-.020 0	.07	.27	.10	19 Eridani $\tau^5$
817	+47 51 36.39	66.1	+12.221-.496	-.27	-.026 0	.08	.24	.13	
818	-50 43 4.45	80.2	+12.318-.212	-.04	+.086- 1	.11	.53	.19	45 G Horologii
819	-66 49 41.38	78.2	+12.217-.074	-.07	+.002 0	.10	.61	.22	7 G Reticuli
820	-32 12 32.56	71.0	+12.154-.284	-.06	-.011 0	.16	1.11	.46	98 G Fornacis
821	+22 52 48.88	64.6	+12.092-.414	-.16	-.036 0	.08	.37	.19	9 Tauri
822	-11 31 41.35	89.6	+12.195-.337	-.09	+.074 0	.12	.77	.20	
823	+ 0 15 41.67	65.0	+11.938-.363	-.11	-.150 0	.07	.26	.14	*
824	-17 47 53.25	71.5	+12.070-.323	-.08	-.013 0	.09	.38	.17	20 Eridani
825	+ 0 5 3.82	67.4	+11.599-.359	-.11	-.482+ 2	.06	.23	.12	10 Tauri
826	+62 53 33.37	77.8	+11.982-.610	-.45	+.021 0	.06	.32	.12	Groomb 716
827	-40 36 9.90	77.9	+11.916-.257	-.05	-.043 0	.09	.43	.17	110 G Eridani y
828	-78 41 12.22	79.3	+11.923+.264	-.51	-.028 0	.06	.59	.19	1 G Mensæ
829	+16 12 40.85	74.1	+11.901-.402	-.15	-.039 0	.09	.43	.18	
830	+86 19 57.09	77.9	+11.864-2.367		-.066-19	.05	.29	.11	
831	- 5 56 48.27	69.0	+11.715-.352	-.10	-.204 0	.08	.31	.15	21 Eridani
832	+59 38 49.54	72.4	+11.893-.581	-.39	+.002 0	.10	.42	.19	
833	+37 15 26.80	63.7	+11.859-.462	-.21	-.022 0	.10	.61	.30	
834	-28 16 10.99	83.4	+11.912-.298	-.07	+.032 0	.09	.52	.16	
835	+ 2 43 54.12	60.7	+11.885-.371	-.11	+.006 0	.12	.46	.26	12 Tauri
836	+25 0 21.88	71.0	+11.853-.425	-.16	-.015 0	.06	.31	.14	11 Tauri
837	- 5 32 0.89	70.0	+11.803-.355	-.10	-.002 0	.10	.41	.19	22 Eridani
838	+47 28 4.36	69.7	+11.764-.507	-.26	-.033 0	.03	.14	.06	
839	+33 38 39.29	60.7	+11.770-.452	-.19	-.011 0	.11	.42	.23	40 Persei o *
840	+66 53 16.76	74.2	+11.642-.672	-.55	-.102- 2	.08	.39	.16	
841	+19 22 48.09	72.2	+11.725-.413	-.15	-.019 0	.08	.34	.15	13 Tauri
842	+63 1 45.51	72.4	+11.679-.622	-.44	-.013 0	.09	.32	.15	
843	+19 20 55.51	66.5	+11.576-.417	-.15	-.065- 1	.11	.39	.20	14 Tauri
844	+31 58 17.06	72.9	+11.614-.450	-.18	-.024 0	.05	.34	.14	
845	+36 8 39.46	91.2	+11.603-.465	-.20	-.035 0	.13	.61	.17	
846	-32 15 28.05	78.6	+11.629-.288	-.06	+.007 0	.09	.45	.17	Eridanus
847	+42 15 45.90	76.7	+11.614-.488	-.23	+.001 0	.05	.23	.09	
848	-10 6 6.67	70.4	+12.352-.346	-.09	+.743+ 1	.05	.22	.10	
849	-10 48 7.87	74.3	+11.576-.346	-.09	-.009 0	.11	.50	.21	
850	+70 33 41.60	87.4	+11.524-.740	-.68	-.059- 1	.11	.64	.18	

823  $\Sigma$  422.  $8^m 26''$  248°; slow binary.839  $\Sigma$  431.  $9^m 520''$  238°.844  $\beta$  535.  $8^m 50'' 9$  50°; slow binary.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$			Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>		<sup>s</sup>	<sup>s</sup>		"	"	"			
851	Br 508	5.8	3	38	51.446	63.6	+3.5589	+.0178	-.005	+0.0014	0	.11	.46	.24	
852	Br 509	3.8		38	56.129	68.9	+3.5550	+.0177	-.005	+0.0014	0	.04	.26	.11	
853	Groomb 731	5.8		38	59.421	61.4	+4.1809	+.0375	-.012	+0.0031	0	.18	.72	.39	
854	L 1198	4.5		39	7.671	82.6	+2.2237	+.0022	+0.002	-0.0069	0	.10	.51	.17	
855	Br 510	6.0		39	11.611	69.7	+3.5718	+.0181	-.005	+0.0012	0	.12	.56	.26	
856	Br 511	4.4		39	15.178	63.0	+3.5630	+.0179	-.005	+0.0008	0	.11	.40	.22	
857	Br 517	5.4		39	25.709	83.2	+3.0450	+.0075	.000	+0.0009	0	.08	.52	.16	
858	$\gamma$ Camelopardi	4.7		39	47.778	80.6	+6.2601	+.1596	-.039	+0.0060	-1	.04	.28	.09	
859	Br 518	6.1		39	49.630	80.2	+3.0643	+.0078	.000	+0.0036	0	.11	.54	.20	
860	Br 512	3.9		39	52.492	66.9	+3.5629	+.0178	-.005	+0.0021	0	.10	.38	.19	
861	Br 513	6.1		39	56.890	69.1	+3.5663	+.0179	-.005	+0.0012	0	.13	.54	.26	
862	Dpt 373	8.7		40	12.203	77.9	+4.0828	+.0300	-.010	+0.0532	-10	.11	.68	.24	
863	Br 519	5.5		40	21.567	61.7	+3.1841	+.0097	-.001	+0.0018	0	.16	.64	.35	
864	Pi 121	4.7		40	21.660	81.6	+5.4454	+.1011	-.030	-0.0007	0	.09	.45	.16	
865	Br 516	4.2		40	23.355	62.0	+3.5537	+.0175	-.005	+0.0017	0	.09	.39	.21	
866	Radcl 1059	6.0		40	50.032	98.1	+5.2244	+.0870	-.027	-0.0010	-1	.15	.75	.17	
867	Br 520	7.4		41	24.266	65.9	+3.5588	+.0175	-.005	+0.0014	0	.10	.58	.28	
868	$\pi$ Eridani	4.7		41	24.831	69.5	+2.8327	+.0050	+0.001	+0.0024	0	.13	.50	.24	
869	$\eta$ Tauri	2.8		41	32.308	70.2	+3.5588	+.0175	-.005	+0.0014	0	.03	.15	.07	
870	L 1237 <i>m</i>	6.7		42	0.928	82.0	+1.5261	+.0090	-.003	+0.0030	+1	.15	.78	.27	
871	L 1232	5.9		42	9.431	82.3	+1.8599	+.0045	.000	-0.0027	0	.18	1.05	.34	
872	Br 522	5.7		42	25.531	85.1	+3.5453	+.0171	-.005	+0.0023	0	.13	.46	.17	
873	Br 530	4.3		42	32.712	83.7	+2.5798	+.0025	+0.002	-0.0118	-3	.06	.30	.10	
874	Br 529	5.3		42	47.175	68.8	+3.2860	+.0115	-.002	+0.0024	0	.08	.39	.18	
875	$\beta$ Reticuli	3.8		42	56.636	78.0	+0.7377	+.0282	-.019	+0.0472	-4	.12	.54	.21	
876	Groomb 743	5.9		43	6.591	63.8	+4.1629	+.0358	-.013	-0.0015	0	.14	.75	.37	
877	Br 527	3.7		43	12.865	69.1	+3.5601	+.0173	-.005	+0.0014	0	.04	.22	.10	
878	Br 524	5.3		43	13.241	65.9	+3.7811	+.0234	-.008	-.0032	0	.16	.70	.35	
879	Br 528	5.3		43	14.132	67.2	+3.5620	+.0174	-.005	+0.0014	0	.08	.34	.17	
880	Br 532	5.2		43	21.586	80.9	+2.5789	+.0030	+0.002	+0.0032	0	.07	.34	.12	
881	$\rho$ Fornacis	5.8		43	53.649	85.2	+2.4227	+.0021	+0.002	+0.0020	-2	.12	.75	.22	
882	L 1238	6.5		44	3.882	87.4	+2.2567	+.0024	+0.002	+0.0018	0	.11	.60	.18	
883	Pi 170	5.5		44	18.119	64.9	+3.5989	+.0181	-.005	+0.0029	-1	.12	.62	.30	
884	Pi 182	5.8		44	54.189	88.4	+2.2131	+.0025	+0.002	+0.0065	0	.13	.78	.21	
885	L 1244	5.0		44	54.446	83.8	+2.2135	+.0025	+0.002	+0.0068	0	.10	.52	.17	
886	Pulk <sub>ss</sub> 557	6.0		45	30.037	95.9	+3.8255	+.0242	-.008	+0.0009	0	.14	.82	.18	
887	Lal 7019	5.9		45	35.997	98.8	+4.8435	+.0631	-.025	+0.0118	0	.12	1.10	.17	
888	L 1248	4.2		45	42.709	84.2	+2.2441	+.0025	+0.002	-0.0042	0	.09	.48	.15	
889	Radcl 1086	6.0		46	23.684	97.0	+4.3324	+.0409	-.016	+0.0055	0	.15	.81	.18	
890	Br 535	5.9		46	40.226	56.3	+3.1943	+.0097	-.002	-0.0000	0	.16	.60	.36	
891	Br 536	7.0		47	3.957	86.2	+3.0426	+.0074	.000	-0.0015	0	.11	.51	.16	
892	Pi 187	6.3		47	26.838	82.6	+3.4251	+.0138	-.004	+0.0100	0	.08	.48	.15	
893	Br 538	5.6		47	45.203	81.1	+2.9607	+.0064	.000	-0.0006	0	.08	.39	.14	
894	$\zeta$ Persei	2.8		47	50.657	77.7	+3.7622	+.0220	-.008	+0.0010	0	.03	.21	.08	
895	Groomb 745	8.5		48	24.217	82.4	+7.6357	+.2521	-.091	+0.1009	-29	.13	.86	.27	
896	Pi 177	5.0		48	35.724	78.6	+5.2558	+.0831	-.036	+0.0008	0	.08	.38	.14	
897	Pi 178	5.5		48	36.392	82.0	+5.0830	+.0738	-.032	+0.0004	0	.06	.38	.12	
898	Pi 186	5.5		48	45.912	71.2	+4.3046	+.0391	-.016	+0.0031	0	.12	.48	.22	
899	$\gamma$ Hydri	3.1		48	47.058	70.7	-0.9798	+.1071	-.083	+0.0110	+7	.05	.32	.14	
900	Br 533	5.5	3	49	10.113	65.5	+4.4414	+.0438	-.018	+0.0094	-1	.09	.33	.17	

870. Sec: 8<sup>m</sup> 0<sup>h</sup> 6 290°; 9<sup>m</sup> 5 5'' 13°.874  $\Sigma$  452. 10<sup>m</sup> 9'' 60°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
851	+23 58 29.36	60.2	+11.525-.429	-.16	-.055 0	.09	.37	.21	16 Tauri
852	+23 47 56.22	69.8	+11.525-.428	-.16	-.050 0	.04	.22	.10	17 Tauri
853	+45 22 4.91	62.0	+11.556-.503	-.24	-.015 0	.15	.57	.31	
854	-37 37 44.83	76.0	+11.483-.269	-.05	-.078+ 1	.10	.40	.17	124 G Eridani <i>h</i>
855	+24 31 31.33	68.2	+11.501-.430	-.16	-.055 0	.11	.56	.26	18 Tauri
856	+24 9 12.63	53.7	+11.504-.430	-.16	-.048 0	.08	.29	.18	19 Tauri <i>q</i>
857	- 1 28 42.66	76.4	+11.530-.368	-.11	-.009 0	.09	.39	.16	24 Eridani
858	+71 1 27.31	81.5	+11.477-.753	-.70	-.036- 1	.04	.26	.08	5 H
859	- 0 36 40.75	78.5	+11.510-.371	-.11	-.001 0	.09	.38	.15	25 Eridani
860	+24 3 18.99	60.6	+11.462-.431	-.16	-.045 0	.09	.35	.19	20 Tauri
861	+24 14 32.20	62.1	+11.461-.431	-.16	-.041 0	.12	.48	.26	21 Tauri
862	+41 8 58.58	72.8	+10.251-.499	-.22	-1.233- 7	.09	.41	.18	$\Sigma$ 443. 9 <sup>m</sup> 8'' 6 48°
863	+ 5 44 12.55	55.7	+11.460-.386	-.11	-.013 0	.15	.58	.35	29 Tauri <i>u</i> ( <i>u</i> <sup>1</sup> )
864	+65 13 1.07	79.3	+11.473-.656	-.49	+ .001 0	.08	.36	.14	
865	+23 38 12.40	58.0	+11.417-.430	-.16	-.054 0	.08	.31	.18	23 Tauri
866	+62 59 22.76	00.6	+11.392-.630	-.44	-.047 0	.13	.77	.15	
867	+23 48 24.45	66.4	+11.344-.432	-.16	-.054 0	.10	.55	.26	24 Tauri
868	-12 24 54.76	68.3	+11.456-.345	-.09	+ .059 0	.11	.38	.19	
869	+23 47 45.44	67.4	+11.340-.432	-.16	-.048 0	.03	.13	.06	<i>Alcyone</i>
870	-54 35 19.63	77.5	+11.414-.189	-.04	+ .060 0	.12	.55	.22	13 G Reticuli *
871	-47 40 16.79	76.0	+11.318-.228	-.04	-.025 0	.14	.64	.26	51 G Horologii
872	+23 6 50.32	81.0	+11.274-.432	-.16	-.050 0	.11	.42	.16	
873	-23 32 42.24	81.1	+10.792-.314	-.07	-.523+ 1	.06	.35	.12	27 Eridani $\tau^6$
874	+10 50 8.36	62.9	+11.276-.401	-.12	-.022 0	.07	.28	.15	30 Tauri <i>e</i> *
875	-65 7 17.59	75.6	+11.359-.099	-.06	+ .073- 6	.10	.44	.18	
876	+44 39 44.57	56.3	+11.242-.506	-.24	-.033 0	.13	.51	.30	
877	+23 44 51.52	69.5	+11.217-.434	-.15	-.050 0	.04	.25	.11	27 Tauri *
878	+32 47 4.68	58.5	+11.253-.460	-.18	-.013 0	.14	.56	.32	42 Persei <i>n</i>
879	+23 49 52.06	65.8	+11.216-.434	-.15	-.049 0	.08	.35	.18	28 Tauri
880	-24 11 3.91	81.4	+11.310-.316	-.07	+ .054 0	.07	.28	.10	28 Eridani $\tau^7$
881	-30 28 8.54	80.0	+10.977-.298	-.06	-.241 0	.12	.52	.20	
882	-36 24 49.73	84.8	+11.208-.278	-.05	+ .003 0	.10	.51	.16	133 G Eridani
883	+25 16 39.65	61.6	+11.080-.440	-.16	-.108 0	.11	.55	.29	*
884	-37 55 39.90	86.5	+11.129-.273	-.05	-.015- 1	.11	.64	.19	135 G Eridani <i>f</i>
885	-37 55 32.91	80.1	+11.126-.274	-.05	-.018- 1	.10	.49	.18	7.5'' 207°
886	+34 3 26.78	91.3	+11.101-.469	-.19	.000 0	.14	.61	.18	
887	+57 40 40.65	98.6	+11.015-.594	-.35	-.079- 1	.10	.93	.15	
888	-36 30 10.97	82.0	+11.036-.277	-.05	-.050 0	.09	.45	.15	138 G Eridani <i>g</i> (or <i>v</i> <sup>2</sup> )
889	+48 21 7.80	94.4	+11.017-.533	-.26	-.019- 1	.15	.71	.19	
890	+ 6 14 3.61	53.4	+11.009-.394	-.11	-.007 0	.14	.57	.35	31 Tauri <i>w</i> <sup>2</sup>
891	- 1 26 54.33	82.5	+10.974-.375	-.10	-.013 0	.09	.38	.14	
892	+17 1 45.22	78.8	+10.926-.424	-.14	-.033- 1	.07	.40	.14	
893	- 5 39 35.67	75.0	+10.928-.366	-.09	-.008 0	.08	.37	.15	30 Eridani *
894	+31 35 12.02	74.4	+10.913-.464	-.18	-.017 0	.04	.21	.08	$\Sigma$ 464. 9 <sup>m</sup> 3 13'' 208°
895	+75 53 6.80	81.8	+10.358-.951	-1.06	-.530- 12	.10	.67	.21	
896	+62 46 44.69	74.7	+10.877-.648	-.43	+ .002 0	.07	.32	.13	
897	+60 48 57.37	77.2	+10.858-.627	-.39	-.016 0	.06	.32	.12	O $\Sigma$ 67. 8 <sup>m</sup> 2 2'' 45°
898	+47 34 39.56	63.4	+10.838-.533	-.25	-.024 0	.11	.42	.22	
899	-74 32 43.78	71.8	+10.977+.115	-.23	+ .116- 1	.05	.31	.13	
900	+50 24 20.46	55.8	+10.702-.550	-.27	-.130- 1	.08	.22	.14	43 Persei <i>A</i>

877  $\Sigma$  453. 9<sup>m</sup> 0'' 5 45°?883 O $\Sigma$  65. 6<sup>m</sup> 3-6<sup>m</sup> 6 0'' 6 202°; binary.893 h 338. 10<sup>m</sup> 8'' 135°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m		s	s		s	s	s	"	"
901	Br 540	4.9	3	49	16.154	62.3	+3.0108+	.0069	.000	+ .0023	0	.10	.36	.20
902	Br 543	4.8		49	27.360	79.9	+2.5518+	.0030	+ .002	+ .0021	0	.09	.42	.15
903	L 1275	5.3		49	50.310	83.4	+2.2854+	.0026	+ .002	+ .0028	0	.11	.57	.18
904	Pi 194	5.6		50	1.814	76.0	+3.8541+	.0242	-.009	-.0014	0	.18	.90	.36
905	L 1273	7.3		50	9.499	80.4	+2.4754+	.0028	+ .002	+ .0017	0	.16	.90	.31
906	L 1287	6.0		50	27.403	83.6	+1.8570+	.0045	.000	+ .0029-	1	.18	1.14	.35
907	L 1286	5.8		50	53.007	86.0	+2.1016+	.0031	+ .001	-.0005	0	.14	.81	.24
908	Pi 197	5.8		50	57.417	73.3	+3.5379+	.0159	-.005	+ .0046-	1	.11	.50	.21
909	Br 541	6.3		51	8.021	69.5	+3.5517+	.0163	-.006	+ .0021	0	.09	.50	.22
910	$\epsilon$ Persei	2.9		51	8.468	76.4	+4.0141+	.0286	-.012	+ .0023	0	.04	.16	.07
911	L 1293	7.2		51	40.127	88.3	+2.1535+	.0029	+ .001	-.0002	0	.15	.70	.21
912	Br 544	6.9		51	48.131	71.9	+2.7930+	.0046	+ .001	+ .0007	0	.10	.52	.22
913	$\xi$ Persei	4.1		52	28.473	81.4	+3.8830+	.0245	-.010	+ .0011	0	.04	.24	.08
914	Pi 160 <i>m</i>	5.4		53	16.988	71.0	+9.8079+	.5055	-.211	-.0057-	1	.07	.33	.14
915	$\gamma$ Eridani	3.1		53	21.814	72.1	+2.7977+	.0045	+ .001	+ .0046-	1	.03	.16	.07
916	Paris 4661	6.0		54	48.713	95.5	+2.8101+	.0048	+ .001	-.0016	0	.14	.86	.19
917	Br 545	7.2		55	0.358	80.1	+3.5565+	.0160	-.006	+ .0011	0	.12	.38	.16
918	Bruss 1532	8.3		55	0.803	92.6	+3.5564+	.0160	-.006	+ .0010	0	.15	.82	.21
919	Pi 215	6.2		55	2.987	78.9	+3.4512+	.0137	-.005	+ .0095	0	.10	.57	.20
920	$\lambda$ Tauri	Var.		55	8.328	78.6	+3.3192+	.0114	-.003	-.0004	0	.03	.21	.08
921	Br 547	7.2		55	17.353	70.0	+3.4894+	.0144	-.005	+ .0027	0	.09	.33	.16
922	L 1318	7.4		55	23.351	90.1	+1.7160+	.0061	-.001	+ .0017	0	.15	.80	.22
923	Br 551	4.7		55	39.677	81.6	+2.5562+	.0032	+ .001	+ .0006	0	.08	.36	.13
924	Pi 208	5.2		56	6.984	64.1	+4.9704+	.0637	-.034	+ .0001	0	.15	.54	.29
925	Pi 220	5.9		56	18.720	74.8	+3.2689+	.0105	-.003	+ .0002	0	.14	.82	.32
926	Br 550	5.3		56	27.954	69.7	+3.0373+	.0071	-.001	+ .0016	0	.11	.39	.19
927	Grw <sub>60</sub> 284	8.7		56	32.010	85.8	+4.0186+	.0222	-.010	+ .1420-	8	.09	.62	.17
928	L 1330	6.4		56	34.037	87.1	+1.2823+	.0123	-.006	+ .0029	0	.14	.80	.23
929	L 1316	6.1		56	41.234	79.6	+2.3923+	.0028	+ .001	+ .0033	0	.13	.69	.25
930	$\delta$ Reticuli	4.5		57	9.705	74.3	+0.9406+	.0194	-.011	+ .0007-	1	.11	.45	.19
931	Pi 226	5.6		57	29.218	86.0	+3.0722+	.0071	-.001	+ .0107-	1	.10	.75	.20
932	$\nu$ Tauri	4.0		57	50.140	81.8	+3.1876+	.0092	-.002	+ .0001	0	.04	.26	.08
933	Br 552	5.8		58	22.702	72.2	+3.5812+	.0162	-.006	-.0003	0	.10	.50	.21
934	Br 555	5.6		58	26.528	84.5	+3.1770+	.0089	-.002	+ .0006	0	.12	.42	.16
935	Pi 234	5.7		58	31.707	77.4	+3.2435+	.0098	-.002	+ .0107	0	.16	.81	.31
936	Br 554	4.5		58	46.901	72.8	+3.5407+	.0151	-.006	+ .0067	0	.04	.24	.10
937	Pi 238	5.6		58	56.076	75.0	+3.1338+	.0081	-.001	+ .0100-	1	.13	.70	.28
938	$\lambda$ Persei	4.4		59	7.899	69.6	+4.4523+	.0410	-.022	-.0003	0	.08	.27	.14
939	Br 556	6.2		59	24.948	72.8	+3.5457+	.0150	-.006	+ .0125-	1	.08	.32	.14
940	$\gamma$ Reticuli	4.5		59	26.981	70.2	+0.8576+	.0212	-.012	-.0003+	1	.13	.52	.25
941	$\epsilon$ Reticuli	4.9		59	40.815	77.4	+0.9619+	.0191	-.010	+ .0071+	2	.15	.68	.27
942	Lal 7600	5.9	3	59	41.977	98.9	+2.8044+	.0048	+ .001	+ .0005	0	.12	1.06	.17
943	Br 558	5.3	4	0	28.226	71.1	+3.6724+	.0178	-.008	+ .0012	0	.12	.48	.22
944	$\psi$ Tauri	5.3		0	49.400	78.8	+3.7019+	.0187	-.008	-.0062	0	.10	.38	.16
945	Pi 242	7.4		0	54.348	71.4	+3.9878+	.0250	-.013	+ .0153-	1	.11	.39	.18
946	L 1380	7.0	4	1	18.462	82.0	-0.3906+	.0647	-.041	-.0037+	3	.16	.75	.27
947	Br 557	4.2		1	23.953	79.7	+4.3406+	.0362	-.020	+ .0032	0	.04	.21	.07
948	Pi 251	5.7		1	30.127	82.5	+2.4713+	.0031	+ .001	+ .0147	0	.10	.54	.18
949	Br 560	6.3		1	38.678	80.0	+3.9542+	.0245	-.013	-.0088-	2	.09	.39	.15
950	Br 561	5.7	4	1	56.553	69.6	+3.9874+	.0249	-.013	+ .0136-	1	.08	.28	.14

901  $\Sigma$  470. 6<sup>m</sup>9 6<sup>m</sup>7 348°.907 12<sup>m</sup> 23<sup>m</sup> 173°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
901	- 3 15 1.44	59.9	+10.829-.374	-.10	+ .004 0	.08	.29	.16	32 Eridani *
902	-24 54 29.34	81.9	+10.794-.318	-.07	-.017 0	.08	.37	.13	33 Eridani $\tau^8$
903	-35 1 40.78	76.0	+10.765-.286	-.05	-.018 0	.10	.47	.19	151 G Eridani $\dot{z}$
904	+34 47 18.37	64.8	+10.759-.478	-.18	-.010 0	.16	.71	.36	
905	-27 57 52.41	75.4	+10.795-.309	-.06	+ .035 0	.16	1.16	.43	
906	-47 11 16.07	78.4	+10.696-.234	-.04	-.041 0	.13	.75	.27	55 G Horologii
907	-40 39 4.32	81.6	+10.692-.263	-.04	-.014 0	.12	.64	.22	153 G Eridani *
908	+22 11 23.70	69.9	+10.586-.441	-.14	-.114- 1	.09	.43	.19	32 Tauri
909	+22 53 6.80	68.4	+10.674-.443	-.15	-.013 0	.09	.50	.23	33 Tauri
910	+39 43 15.46	73.4	+10.658-.500	-.21	-.029 0	.04	.23	.09	$\Sigma$ 471. $8^M 3 9'' 10^\circ$
911	-39 3 4.82	80.4	+10.633-.270	-.04	-.015 0	.13	.53	.20	156 G Eridani
912	-13 53 18.49	69.1	+10.640-.350	-.08	+ .002 0	.11	.44	.21	
913	+35 30 12.61	82.4	+10.576-.485	-.19	-.012 0	.04	.27	.09	
914	+80 25 25.36	68.7	+10.533-1.221	-1.92	+ .005+ 1	.07	.32	.15	49 H Cephei *
915	-13 47 34.66	69.9	+10.410-.352	-.08	-.112- 1	.03	.14	.06	
916	-12 51 28.22	93.3	+10.391-.354	-.08	-.023 0	.14	.84	.20	
917	+22 55 11.26	69.6	+10.372-.448	-.14	-.028 0	.10	.30	.16	} $\Sigma$ 479. $7'' 127^\circ$
918	+22 55 6.44	87.8	+10.380-.448	-.14	-.019 0	.14	.73	.21	
919	+17 54 42.88	72.6	+10.359-.436	-.13	-.037- 1	.09	.44	.19	
920	+12 12 28.12	75.9	+10.375-.418	-.12	-.014 0	.04	.25	.09	3 <sup>M</sup> 4 to 4 <sup>M</sup> 2
921	+19 55 8.78	69.7	+10.303-.440	-.14	-.075 0	.08	.33	.16	
922	-49 53 46.28	84.9	+10.403-.219	-.04	+ .032 0	.12	.54	.18	
923	-24 17 59.48	81.2	+10.354-.324	-.06	+ .004 0	.08	.36	.13	53 Eridani $\tau^9$
924	+58 52 39.94	54.0	+10.323-.626	-.35	+ .007 0	.13	.48	.30	
925	+ 9 43 3.16	70.5	+10.297-.413	-.11	-.005 0	.12	.71	.30	$\Sigma$ 70. $12^M 12'' 227^\circ$
926	- 1 49 47.02	69.6	+10.286-.384	-.09	-.004 0	.09	.33	.16	35 Eridani
927	+35 1 55.88	83.3	+ 8.931-.426	-.18	-1.354-19	.08	.54	.16	
928	-57 23 10.25	84.0	+10.280-.165	-.04	-.002 0	.11	.59	.19	17 G Reticuli
929	-30 46 20.11	75.0	+10.273-.304	-.04	.000 0	.13	.60	.25	163 G Eridani
930	-61 40 57.41	78.0	+10.219-.122	-.05	-.019 0	.09	.43	.16	
931	- 0 32 25.07	84.6	+ 9.968-.391	-.09	-.245- 1	.08	.51	.15	
932	+ 5 42 42.80	80.6	+10.180-.404	-.10	-.007 0	.04	.29	.10	
933	+23 49 50.31	68.0	+10.124-.455	-.14	-.022 0	.09	.40	.19	36 Tauri
934	+ 5 9 34.39	79.3	+10.125-.404	-.10	-.016 0	.12	.37	.17	40 Tauri
935	+ 7 55 13.83	71.5	+10.147-.414	-.11	+ .012- 1	.15	.67	.30	
936	+21 48 31.23	69.3	+10.052-.451	-.13	-.064- 1	.05	.21	.10	37 Tauri A ( $A^1$ )
937	+ 2 33 19.03	65.6	+ 9.988-.400	-.10	-.116- 1	.12	.42	.22	
938	+50 4 47.72	59.1	+10.052-.565	-.25	-.037 0	.07	.21	.13	
939	+21 44 20.47	69.4	+ 9.930-.453	-.13	-.138- 2	.07	.28	.13	39 Tauri ( $A^2$ )
940	-62 26 18.32	71.8	+10.087-.112	-.05	+ .022 0	.11	.49	.22	
941	-61 21 32.06	74.3	+10.145-.127	-.04	+ .097- 1	.12	.53	.22	
942	-13 4 1.08	95.6	+10.057-.358	-.07	+ .011 0	.12	1.04	.19	
943	+27 19 49.30	65.2	+ 9.931-.469	-.15	-.057 0	.11	.39	.21	41 Tauri
944	+28 43 51.43	74.9	+ 9.964-.472	-.16	+ .003+ 1	.09	.35	.15	
945	+37 48 40.61	68.4	+ 9.731-.511	-.19	-.224- 2	.09	.32	.16	*
946	-71 26 38.56	78.8	+ 9.970+.046	-.14	+ .046 0	.13	.58	.22	63 G Hydri
947	+47 26 44.08	76.7	+ 9.887-.555	-.23	-.030 0	.04	.20	.08	48 Persei c
948	-27 55 31.65	84.6	+10.013-.319	-.05	+ .103- 2	.10	.54	.17	174 G Eridani
949	+37 27 54.23	79.6	+ 9.712-.504	-.19	-.187+ 1	.08	.41	.15	49 Persei
950	+37 46 40.68	64.2	+ 9.673-.512	-.19	-.203- 2	.07	.29	.15	50 Persei

914  $\Sigma$  460.  $5^M 8-6^M 7 1'' 49^\circ$ ; slow binary.945  $\Sigma$  531.  $9^M 2'' 130^\circ$ ; slow binary.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
951	Pi 249	6.3	4	2	15.748	75.9	+3.4310+.0128	-.005	+.0012 0	.08	.51	.19
952	Br 562	5.9		3	20.324	74.5	+3.4895+.0136	-.006	+.0075 0	.06	.30	.12
953	Pi 254	6.3		3	26.438	69.9	+3.3457+.0112	-.004	+.0010 0	.10	.51	.23
954	L 1371	7.3		4	1.952	78.9	+1.6898+.0063	-.001	+.0055 0	.16	.87	.32
955	Br 563	5.6		4	44.357	68.3	+3.6470+.0168	-.008	-.0020 0	.10	.40	.20
956	Paris 4833	5.6		4	45.401	95.6	+2.7228+.0042	+.001	+.0007 0	.13	.90	.18
957	Groomb 766	5.6		4	59.40	71.8	+13.459+.993		-.001+ 6	.07	.40	.17
958	Groomb 750	6.8		5	5.70	76.4	+17.316+1.797		+.015+36	.03	.21	.08
959	L 1376	6.7		5	27.751	90.0	+1.8593+.0047	.000	+.0071 0	.15	.82	.22
960	Br 567	5.8		5	29.783	65.3	+2.9242+.0057	-.001	-.0003 0	.10	.45	.22
961	Br 566	6.0		6	0.776	63.6	+3.1900+.0087	-.002	+.0095 0	.14	.51	.27
962	L 1392	6.8		6	16.209	76.2	+0.6399+.0278	-.015	+.0310+ 7	.14	.66	.27
963	$\sigma$ Eridani	4.2		6	59.008	76.9	+2.9263+.0058	-.001	+.0006 0	.03	.20	.07
964	L 1444	7.0		7	9.840	84.7	-2.9262+.2186	-.118	+.0050- 2	.10	.81	.23
965	Lal 7874	6.0		7	12.777	97.6	+2.6322+.0037	+.001	+.0030 0	.15	1.12	.20
966	$\delta$ Horologii	5.0		7	28.527	76.9	+2.0189+.0038	.000	+.0173 0	.13	.57	.23
967	$\mu$ Persei	4.3		7	33.145	76.0	+4.3900+.0358	-.023	+.0013 0	.06	.26	.11
968	Groomb 774	5.9		7	59.23	72.0	+12.794+.861		-.030+32	.07	.38	.16
969	Pi 260	5.7		8	4.622	71.0	+5.2586+.0691	-.050	+.0036 0	.11	.45	.21
970	Br 565	4.9		8	4.840	71.4	+4.0722+.0263	-.016	+.0014 0	.11	.33	.16
971	Br 570	5.5		8	9.969	63.4	+3.2266+.0092	-.003	-.0003 0	.13	.50	.27
972	Br 571	5.0		8	30.016	83.2	+3.2590+.0096	-.004	-.0007 0	.12	.39	.16
973	Groomb 795	6.0		8	51.495	85.0	+4.9416+.0550	-.039	+.0054 0	.11	.60	.19
974	Pi 7	5.3		8	54.866	70.0	+4.6622+.0446	-.030	-.0001 0	.12	.48	.23
975	Pi 19	5.3		9	8.222	75.4	+3.2763+.0099	-.004	+.0005 0	.18	.81	.33
976	L 1390	7.0		9	20.636	81.8	+1.9069+.0044	.000	+.0028 0	.18	.86	.30
977	Groomb 779	5.7		9	37.551	67.8	+10.2192+.4749	-.485	+.0033- 3	.08	.34	.16
978	Br 574	5.2		9	38.207	79.1	+2.8519+.0049	.000	-.0008- 1	.07	.34	.13
979	L 1388	7.5		10	5.299	84.3	+2.3820+.0030	.000	+.0044 0	.12	.78	.24
980	Br 572	6.5		10	5.567	67.9	+3.4017+.0115	-.005	+.0084 0	.09	.38	.18
981	$\mu$ Tauri	4.4		10	6.203	64.0	+3.2544+.0094	-.004	+.0019 0	.11	.33	.19
982	L 1394	6.7		10	9.937	87.4	+2.0564+.0036	.000	+.0009 0	.14	.94	.25
983	Brisb 673	7.0		10	20.220	87.7	+2.1687+.0032	.000	-.0004 0	.12	.69	.19
984	Br 578	4.5		10	40.160	71.6	+2.7611+.0016	-.001	-.1484- 20	.05	.22	.10
985	$\alpha$ Horologii	3.8		10	41.287	79.8	+1.9865+.0035	.000	+.0037- 2	.10	.40	.16
986	Pi 18	4.7		10	43.279	69.0	+4.4955+.0379	-.028	+.0056 0	.12	.40	.20
987	L 1402	7.1		11	5.366	85.8	+1.8404+.0046	-.001	+.0152- 2	.18	.84	.27
988	Pi 10	5.6		11	15.698	65.0	+5.6064+.0832	-.067	-.0034 0	.11	.52	.26
989	$\omega$ Tauri	5.0		11	23.999	64.9	+3.5109+.0134	-.007	-.0021 0	.11	.44	.22
990	Groomb 803	5.7		11	42.717	72.6	+4.4879+.0373	-.026	+.0071 0	.16	.66	.30
991	Br 576	5.7		12	28.045	77.3	+3.5454+.0137	-.007	+.0075 0	.09	.30	.14
992	Groomb 809	5.6		12	36.797	65.7	+4.5296+.0386	-.027	+.0015 0	.16	.68	.34
993	Pi 22	5.8		13	5.603	79.6	+5.1901+.0621	-.050	+.0081- 2	.08	.40	.15
994	$\alpha$ Reticuli	3.3		13	8.144	68.1	+0.7624+.0215	-.012	+.0054+ 1	.10	.39	.19
995	$\gamma$ Doradus	4.4		13	24.354	75.3	+1.5675+.0079	-.003	+.0098+ 2	.12	.48	.20
996	L 1425	5.6		13	29.296	86.6	+0.7835+.0211	-.011	+.0006+ 3	.18	.90	.28
997	Br 580	5.6		13	32.398	72.2	+3.5317+.0134	-.007	+.0031 0	.11	.45	.20
998	Br 581	5.6		13	41.419	69.4	+3.5465+.0137	-.007	+.0026 0	.11	.48	.23
999	Br 579	5.2		13	54.909	85.7	+3.8863+.0206	-.013	-.0025 0	.07	.54	.15
1000	$\gamma$ Tauri	3.8	4	14	6.082	73.6	+3.4097+.0113	-.005	+.0081 0	.03	.18	.07

954 Doradus. Magns. discordant.

972  $\beta$  547. 8<sup>m</sup> 0 1" 358°.978  $\Sigma$  516. 9<sup>m</sup> 6" 4 150°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 19			Remarks.
	" ' "		" "	"	"	"	"	"	
951	+17 4 21.15	71.8	+9.835- .440	-.12	-.017 0	.08	.47	.20	43 Tauri ( $\omega^1$ )
952	+19 20 41.19	74.4	+9.726- .449	-.13	-.043- 1	.07	.31	.13	
953	+13 7 59.39	67.2	+9.737- .430	-.12	-.025 0	.09	.46	.22	
954	-49 53 45.85	76.6	+9.731- .220	-.04	+.015- 1	.12	.65	.25	61 G Horologii *
955	+26 13 11.98	65.8	+9.625- .470	-.14	-.037 0	.10	.38	.20	44 Tauri $p$
956	-16 38 58.28	93.1	+9.670- .352	-.07	+.009 0	.14	1.10	.23	62 G Horologii
957	+83 33 52.36	69.8	+9.657- 1.725		+.014 0	.08	.45	.20	
958	+85 17 28.72	81.6	+9.663- 2.220		+.033- 2	.04	.26	.08	
959	-46 7 44.84	83.4	+9.616- .243	-.04	+.009- 1	.11	.55	.18	37 Eridani
960	-7 11 6.68	66.2	+9.595- .378	-.08	-.009 0	.08	.35	.18	45 Tauri
961	+5 15 46.22	58.9	+9.577- .414	-.10	+.013- 1	.12	.40	.24	24 G Reticuli
962	-64 29 43.95	79.3	+9.883- .090	-.06	+.338- 4	.13	.63	.23	38 Eridani $\alpha^1$ Br 568
963	-7 5 53.88	76.8	+9.571- .380	-.08	+.081 0	.04	.22	.08	5 G Mensæ
964	-78 54 4.06	83.8	+9.468+ .371	-.55	-.008- 1	.09	.64	.19	
965	-20 36 57.56	96.8	+9.525- .343	-.07	+.053 0	.16	1.22	.23	
966	-42 15 15.99	74.0	+9.517- .266	-.04	+.065- 2	.11	.49	.21	$\Omega$ 73. $12^m 14'' 349^\circ$
967	+48 9 19.00	62.9	+9.419- .569	-.23	-.027 0	.06	.21	.12	
968	+83 5 59.96	76.0	+9.521- 1.647		+.109+ 4	.08	.45	.17	
969	+61 35 56.04	66.5	+9.403- .682	-.36	-.002 0	.10	.37	.19	52 Persei $f$
970	+40 13 49.96	66.9	+9.379- .528	-.19	-.026 0	.09	.30	.16	
971	+7 27 37.56	58.8	+9.402- .420	-.10	+.003 0	.13	.42	.25	
972	+9 0 36.91	75.8	+9.338- .424	-.10	-.035 0	.11	.33	.16	46 Tauri
973	+57 36 38.01	82.9	+9.314- .642	-.31	-.031- 1	.11	.48	.17	47 Tauri *
974	+53 21 38.51	57.3	+9.337- .605	-.27	-.004 0	.13	.39	.24	
975	+9 45 30.66	69.9	+9.283- .427	-.10	-.041 0	.16	.64	.30	
976	-44 37 24.67	75.7	+9.316- .251	-.04	+.009 0	.14	.61	.25	64 G Horologii
977	+80 35 8.52	64.9	+9.268- 1.325	-1.86	-.018 0	.08	.41	.20	39 Eridani $A$ *
978	-10 30 16.40	72.5	+9.128- .372	-.08	-.157 0	.07	.29	.13	
979	-30 21 57.59	82.2	+9.247- .313	-.04	-.003- 1	.13	.84	.27	
980	+15 9 1.73	68.6	+9.224- .445	-.11	-.025- 1	.08	.36	.17	48 Tauri
981	+8 38 31.07	63.0	+9.229- .426	-.10	-.020 0	.10	.34	.19	
982	-40 36 42.60	82.0	+9.250- .270	-.04	+.006 0	.13	.77	.25	196 G Eridani
983	-37 16 56.99	81.7	+9.219- .284	-.04	-.011 0	.13	.64	.22	
984	-7 48 30.60	72.2	+5.770- .342	-.08	-3.435+ 20	.04	.21	.09	
985	-42 32 27.34	78.2	+8.988- .262	-.04	-.215 0	.08	.34	.14	40 Eridani $\alpha^2$ *
986	+50 2 58.80	64.4	+9.147- .587	-.23	-.054- 1	.11	.40	.21	$b^1$ Persei
987	-46 22 52.47	79.7	+9.063- .244	-.03	-.109- 2	.14	.60	.23	67 G Horologii
988	+64 53 47.40	59.1	+9.159- .731	-.43	.000 0	.10	.44	.24	50 Tauri ( $\omega^2$ ) Br 575
989	+20 19 56.71	61.0	+9.089- .459	-.12	-.059 0	.10	.37	.20	
990	+49 48 18.04	65.0	+9.073- .587	-.23	-.051- 1	.15	.55	.29	
991	+21 20 5.43	73.5	+9.026- .466	-.12	-.039- 1	.08	.29	.13	51 Tauri
992	+50 40 40.78	59.6	+9.056- .593	-.24	+.003 0	.15	.58	.33	$b^2$ Persei
993	+60 29 52.19	76.0	+8.909- .681	-.33	-.107- 1	.07	.32	.13	
994	-62 43 26.61	73.0	+9.071- .104	-.05	+.059- 1	.08	.37	.16	
995	-51 44 19.82	77.0	+9.171- .209	-.03	+.180- 1	.10	.43	.17	
996	-62 26 33.59	82.8	+9.081- .106	-.05	+.096 0	.14	.69	.23	26 G Reticuli *
997	+20 54 1.17	69.9	+8.934- .464	-.12	-.047 0	.10	.40	.19	53 Tauri
998	+21 31 54.71	68.4	+8.923- .466	-.12	-.046 0	.11	.44	.21	56 Tauri
999	+34 19 31.00	79.8	+8.937- .510	-.16	-.015 0	.07	.38	.13	54 Persei
1000	+15 23 10.26	71.7	+8.910- .450	-.11	-.027- 1	.03	.16	.07	

984  $\Sigma$  518.  $9^m 2 82'' 106^\circ$ ; parallax  $''17$ ; Compn. is itself binary.996 h 3641.  $11^m 8'' 267^\circ$ .

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			$\alpha$ Ep.	100 $\mu$	$\alpha$ 10							
		M	h	m	s		s	s	s	"	"	"
1001	L 1411 <i>m</i>	3.6	4	14	6.610	83.2	+2.2688+.0031	.000	+ .0047 0	.08	.42	.14
1002	$\phi$ Tauri	5.1		14	12.143	61.6	+3.6836+.0162	-.010	-.0014- 1	.10	.39	.21
1003	Br 577	4.9		14	19.082	64.9	+4.3253+.0316	-.023	+ .0023 0	.13	.42	.23
1004	Br 585	5.8		14	19.749	69.3	+3.3743+.0108	-.005	+ .0081 0	.09	.36	.17
1005	$\epsilon$ Reticuli	4.5		14	45.395	76.1	+1.0268+.0146	-.008	-.0083- 3	.12	.52	.22
1006	L 1430 <i>m</i>	6.7		14	50.282	84.3	+0.8964+.0181	-.010	+ .0031 0	.14	.78	.25
1007	Br 586	5.4		14	55.972	68.4	+3.3979+.0111	-.005	+ .0077 0	.13	.40	.21
1008	Pi 49	6.0		15	21.313	91.2	+3.1952+.0084	-.003	-.0009 0	.13	.57	.17
1009	Pi 56	7.3		15	31.529	83.9	+2.5070+.0033	.000	+ .0010 0	.12	.58	.19
1010	Pulk <sub>ss</sub> 640	6.0		15	51.837	90.4	+2.9088+.0054	-.001	+ .0016 0	.13	.70	.18
1011	L 1424	5.3		16	6.743	75.3	+1.8959+.0044	-.001	+ .0046- 1	.13	.70	.28
1012	Lal 8205	5.5		16	17.265	94.0	+2.6170+.0037	.000	+ .0031 0	.09	.80	.15
1013	Br 589	5.9		16	25.341	78.1	+3.3764+.0106	-.005	+ .0078 0	.12	.33	.16
1014	Pi 53	6.3		16	29.730	73.8	+3.5247+.0131	-.007	+ .0007 0	.15	.70	.30
1015	$\chi$ Tauri	5.5		16	29.735	71.0	+3.6450+.0152	-.009	+ .0019 0	.08	.32	.15
1016	$\theta$ Reticuli	6.4		16	33.016	74.1	+0.6598+.0230	-.012	-.0007+ 1	.14	.58	.25
1017	$\delta$ Tauri	4.0		17	9.995	79.4	+3.4553+.0118	-.006	+ .0077 0	.03	.18	.07
1018	Br 596	5.9		17	40.708	70.2	+3.4380+.0115	-.006	+ .0076 0	.11	.42	.20
1019	Br 595	6.4		17	57.934	70.3	+3.6124+.0144	-.008	+ .0013 0	.11	.44	.21
1020	Br 591	5.9		17	59.691	73.6	+3.8842+.0197	-.013	+ .0013 0	.12	.54	.23
1021	Br 593	6.1		18	8.316	74.1	+3.8815+.0195	-.013	+ .0035- 1	.13	.68	.27
1022	Br 597	5.0		18	19.804	60.0	+3.4545+.0116	-.006	+ .0082 0	.09	.32	.18
1023	Br 598 <i>m</i>	5.3		18	24.622	66.3	+3.2666+.0092	-.004	-.0019 0	.14	.56	.28
1024	$\xi$ Eridani	5.4		18	42.043	85.9	+2.9851+.0060	-.002	-.0033 0	.08	.46	.14
1025	Ab <sub>o</sub> 105	6.3		19	7.357	76.9	+3.4917+.0121	-.007	+ .0075 0	.09	.52	.20
1026	$\kappa^1$ Tauri	4.5		19	24.493	74.7	+3.5701+.0134	-.008	+ .0073 0	.09	.30	.14
1027	$\kappa^2$ Tauri	5.5		19	27.518	59.0	+3.5689+.0133	-.008	+ .0084 0	.14	.48	.28
1028	L 1438	6.6		19	27.581	82.0	+2.1995+.0033	.000	-.0009 0	.15	.81	.27
1029	Br 601	4.4		19	42.142	66.9	+3.4661+.0117	-.006	+ .0075 0	.09	.30	.16
1030	Pi 69	5.4		19	44.264	79.9	+3.8123+.0177	-.012	+ .0064- 1	.10	.50	.18
1031	Br 603	6.8		19	54.722	71.9	+3.4207+.0110	-.006	+ .0077 0	.13	.45	.22
1032	L 1441	4.0		20	16.828	83.2	+2.2517+.0033	.000	+ .0045 0	.07	.40	.13
1033	$\nu$ Tauri	4.4		20	19.361	66.1	+3.5846+.0135	-.008	+ .0081 0	.07	.38	.18
1034	Br 605	4.7		20	38.815	60.7	+3.4141+.0109	-.006	+ .0079 0	.12	.39	.23
1035	$\eta$ Reticuli	5.3		20	48.407	74.9	+0.6383+.0237	-.012	+ .0125+ 4	.11	.48	.20
1036	$\pi$ Tauri	5.1		20	57.329	61.9	+3.3861+.0105	-.006	.0000 0	.14	.39	.23
1037	Dpt 440 N *	8.1		21	10.541	73.4	+3.4941+.0119	-.007	+ .0062- 1	.13	.62	.26
1038	L 1447	6.9		21	14.136	81.6	+2.2201+.0031	.000	-.0025- 1	.14	.78	.26
1039	Br 606	5.7		21	18.546	76.3	+3.5826+.0135	-.008	+ .0005 0	.10	.33	.15
1040	Pi 82	6.0		22	4.554	86.2	+3.5567+.0129	-.008	+ .0078 0	.11	.52	.16
1041	L 1458	6.7		22	10.449	82.4	+1.8820+.0047	-.001	+ .0006+ 1	.18	.84	.29
1042	Br 610	5.4		22	43.322	68.6	+3.4253+.0110	-.006	+ .0006 0	.11	.36	.18
1043	Br 611	6.1		22	43.417	80.6	+3.3952+.0104	-.006	+ .0075 0	.12	.38	.16
1044	$\epsilon$ Tauri	3.6		22	46.579	75.0	+3.4988+.0119	-.007	+ .0080 0	.03	.15	.06
1045	$\theta^1$ Tauri	4.0		22	51.646	74.5	+3.4229+.0108	-.006	+ .0072 0	.07	.26	.11
1046	$\theta^2$ Tauri	3.5		22	57.099	68.0	+3.4209+.0108	-.006	+ .0072 0	.08	.28	.15
1047	Br 614	5.2		23	13.987	80.0	+3.3574+.0099	-.006	+ .0075 0	.12	.38	.16
1048	Br 615	5.7		23	21.966	67.0	+3.0985+.0069	-.002	+ .0015 0	.13	.45	.23
1049	L 1496	5.8		23	41.865	84.2	+0.8218+.0182	-.009	-.0065+ 1	.16	.87	.28
1050	Br 607	6.0	4	24	6.425	82.8	+4.7351+.0404	-.038	+ .0007 0	.05	.33	.10

1001, 204 G. Erid. X. Innes.  $4^m 2-5^m 2$   $0'' 5$   $330^\circ$ .  
 1019  $\Sigma$  534.  $8^m 0$   $29''$   $290^\circ$ .

1006 Gale.  $8^m 1$   $1'' 0$   $339^\circ$ .  
 1021 O $\Sigma$  81.  $8^m 8$   $4'' 6$   $42^\circ$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
1001	-34 2 32.66	75.5	+ 8.933-.300	-.04	-.003- 1	.08	.35	.15	Br 590; 41 Eridani $v^{4*}$
1002	+27 6 41.41	54.3	+ 8.845-.484	-.13	-.084 0	.07	.28	.17	
1003	+46 15 35.87	55.0	+ 8.882-.569	-.21	-.038 0	.10	.32	.20	53 Persei $d$
1004	+13 47 38.35	65.6	+ 8.891-.445	-.11	-.028- 1	.08	.33	.17	57 Tauri $h$
1005	-59 32 32.68	78.4	+ 8.721-.137	-.04	-.165+ 1	.11	.47	.18	
1006	-61 11 39.05	80.5	+ 8.901-.121	-.04	+ .022 0	.11	.56	.20	28 G Reticuli *
1007	+14 51 20.34	67.8	+ 8.839-.449	-.11	-.033- 1	.11	.40	.20	58 Tauri
1008	+5 53 32.29	84.9	+ 8.788-.422	-.09	-.051 0	.12	.45	.16	
1009	-25 15 55.68	84.6	+ 8.844-.332	-.05	+ .019 0	.10	.51	.16	
1010	-7 49 53.24	88.7	+ 8.801-.385	-.07	+ .002 0	.11	.64	.18	
1011	-44 30 26.66	74.8	+ 8.730-.253	-.03	-.049- 1	.12	.65	.26	68 G Horologii
1012	-20 52 41.16	91.5	+ 8.760-.347	-.06	-.005 0	.09	.92	.19	212 G Eridani
1013	+13 50 26.59	76.2	+ 8.724-.448	-.10	-.031- 1	.11	.34	.16	60 Tauri
1014	+20 35 5.52	73.5	+ 8.744-.466	-.12	-.005 0	.12	.75	.30	$\beta$ 87. $8^m 8$ $1'' 9$ $169^\circ$
1015	+25 23 35.83	62.6	+ 8.717-.482	-.13	-.032 0	.06	.25	.13	$\Sigma$ 528. $7^m 5$ $19'' 25^\circ$
1016	-63 29 53.41	74.6	+ 8.767-.090	-.05	+ .022 0	.11	.52	.21	$8^m 5$ $5'' 4^\circ$
1017	+17 18 28.81	74.6	+ 8.663-.458	-.11	-.033- 1	.04	.18	.07	Also $\delta^i$
1018	+16 32 37.63	70.1	+ 8.624-.457	-.11	-.032- 1	.10	.42	.20	63 Tauri
1019	+24 4 4.70	63.0	+ 8.610-.479	-.12	-.023 0	.10	.36	.20	62 Tauri *
1020	+33 53 56.42	69.9	+ 8.579-.515	-.15	-.052 0	.09	.42	.19	55 Persei
1021	+33 43 45.68	70.4	+ 8.537-.515	-.15	-.082 0	.10	.48	.22	56 Persei *
1022	+17 12 44.32	53.6	+ 8.563-.459	-.11	-.041- 1	.07	.29	.18	64 Tauri $\delta^2$
1023	+9 13 41.89	57.9	+ 8.591-.434	-.10	-.007 0	.14	.51	.30	66 Tauri $r^*$
1024	-3 58 35.69	78.6	+ 8.523-.397	-.07	-.052 0	.08	.43	.16	
1025	+18 48 42.86	74.8	+ 8.479-.465	-.11	-.063- 1	.08	.46	.18	Br 3231
1026	+22 3 54.08	64.8	+ 8.471-.476	-.12	-.048- 1	.08	.23	.13	
1027	+21 58 16.43	52.1	+ 8.455-.476	-.12	-.060- 1	.11	.38	.25	
1028	-35 46 39.27	72.1	+ 8.524-.294	-.04	+ .009 0	.14	.71	.30	218 G Eridani
1029	+17 41 57.47	63.8	+ 8.471-.462	-.11	-.025- 1	.08	.28	.15	68 Tauri $\delta^3$
1030	+31 12 47.64	76.5	+ 8.373-.508	-.14	-.120- 1	.09	.42	.17	
1031	+15 42 44.59	68.8	+ 8.450-.456	-.10	-.029- 1	.12	.46	.22	70 Tauri
1032	-34 14 56.24	77.6	+ 8.505-.302	-.04	+ .055- 1	.08	.38	.15	43 Eridani $d$ ( $v^5$ )
1033	+22 35 12.43	58.3	+ 8.395-.478	-.12	-.052- 1	.07	.27	.16	69 Tauri ( $v^1$ )
1034	+15 23 28.31	60.5	+ 8.394-.456	-.10	-.027- 1	.11	.40	.23	71 Tauri
1035	-63 37 25.12	76.8	+ 8.585-.090	-.05	+ .177- 2	.10	.42	.17	
1036	+14 29 15.40	63.8	+ 8.361-.452	-.10	-.035 0	.11	.37	.20	
1037	+18 53 41.81	67.1	+ 8.242-.467	-.11	-.137- 1	.10	.42	.21	$\Sigma$ 546. $9^m 5$ $6'' 8$ $186^\circ$
1038	-34 58 59.69	72.5	+ 8.264-.297	-.04	-.110 0	.14	.69	.29	220 G Eridani *
1039	+22 46 15.16	72.4	+ 8.350-.478	-.12	-.018 0	.09	.31	.15	72 Tauri ( $v^2$ )
1040	+21 23 48.68	83.6	+ 8.262-.476	-.11	-.045- 1	.10	.47	.16	
1041	-44 23 23.58	77.9	+ 8.360-.253	-.03	+ .061 0	.14	.64	.25	1 G Cæli
1042	+16 8 9.54	69.1	+ 8.275-.458	-.10	+ .019 0	.11	.41	.20	75 Tauri
1043	+14 31 6.67	76.2	+ 8.235-.456	-.10	-.021- 1	.10	.35	.16	76 Tauri
1044	+18 57 31.22	71.4	+ 8.213-.469	-.11	-.038- 1	.03	.17	.07	
1045	+15 44 24.79	61.2	+ 8.217-.459	-.10	-.028- 1	.07	.23	.13	
1046	+15 38 56.78	59.3	+ 8.213-.459	-.10	-.025- 1	.07	.24	.14	
1047	+12 49 33.37	76.6	+ 8.197-.451	-.10	-.018- 1	.11	.34	.16	79 Tauri $b$
1048	+1 9 32.81	64.6	+ 8.177-.416	-.08	-.027 0	.13	.52	.27	44 Eridani
1049	-61 27 52.29	79.2	+ 8.193-.112	-.04	+ .015+ 1	.13	.63	.23	31 G Reticuli
1050	+53 41 36.46	69.5	+ 8.140-.634	-.24	-.005 0	.06	.23	.11	1 Camelopardi *

1023 Hussey.  $6^m 0-6^m 0$   $0'' 3$   $26^\circ$ .1038.  $9^m 5-10^m 0$  ( $3'' 7$   $281^\circ$ )  $43''$   $198^\circ$ .1050  $\Sigma$  550.  $7^m 1$   $10''$   $306^\circ$ .

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
1051	Br 617	5.9	4 24 26.415	75.8	+3.4167+.0106	-.006	+0.0073 0	.09	.32	.14
1052	Pulk <sub>ss</sub> 675	5.7	24 28.272	95.8	+2.7847+.0045	.000	+0.0005 0	.14	.96	.20
1053	$\delta$ Mensæ	5.8	24 43.822	80.0	-4.1884+.2796	-.013	+0.0051+13	.08	.58	.19
1054	Br 619	4.9	24 50.129	77.3	+3.4302+.0107	-.006	+0.0078 0	.09	.45	.17
1055	Br 620	5.6	24 56.564	79.0	+3.4183+.0106	-.006	+0.0073 0	.10	.33	.14
1056	Br 621	5.6	24 59.512	82.2	+3.3736+.0100	-.006	+0.0074 0	.12	.39	.16
1057	Br 622	6.8	25 26.627	75.9	+3.4017+.0103	-.006	+0.0038 0	.12	.32	.16
1058	Br 623	6.3	26 8.967	63.9	+3.4228+.0105	-.006	+0.0073 0	.10	.36	.20
1059	L 1483	7.3	26 19.010	87.7	+2.5446+.0035	.000	-.0011 0	.13	1.02	.26
1060	Br 616	7.1	26 19.242	75.1	+4.2105+.0251	-.022	+0.0017-1	.11	.50	.21
1061	Br 618	6.4	26 22.593	78.8	+4.2107+.0253	-.022	+0.0006 0	.08	.39	.15
1062	L 1523	6.0	26 36.138	86.1	+0.6864+.0204	-.010	-.0045+1	.18	.86	.27
1063	Br 624	5.1	26 45.678	81.4	+3.0668+.0065	-.002	.0000 0	.07	.36	.13
1064	Pulk <sub>ss</sub> 677	6.0	27 1.587	89.0	+5.5942+.0694	-.079	-.0018-1	.14	.78	.22
1065	L 1495	6.1	27 1.771	82.8	+2.1849+.0034	.000	+0.0005 0	.15	.98	.30
1066	$\delta$ Cæli	5.4	27 46.308	74.6	+1.8351+.0048	-.001	-.0003 0	.12	.57	.23
1067	$\rho$ Tauri	4.8	28 10.342	71.4	+3.4006+.0100	-.006	+0.0069 0	.09	.26	.13
1068	Pi 111	6.0	28 22.443	74.6	+3.7482+.0154	-.012	+0.0004 0	.10	.52	.21
1069	Pulk <sub>ss</sub> 686	6.0	28 49.199	90.2	+3.1866+.0076	-.004	-.0013 0	.11	.75	.19
1070	Br 631	5.8	29 2.323	70.8	+2.9228+.0053	-.002	+0.0007 0	.13	.56	.26
1071	Br 634	5.6	29 22.583	75.7	+2.8870+.0051	-.002	-.0023 0	.11	.50	.20
1072	Pulk <sub>ss</sub> 691	5.7	29 24.454	93.3	+2.8711+.0048	-.001	-.0020-1	.12	.90	.19
1073	L 1513	4.7	29 35.194	81.1	+2.3529+.0028	.000	-.0080-2	.09	.60	.20
1074	Br 626	4.4	29 45.610	65.8	+4.1469+.0229	-.021	-.0005 0	.13	.44	.23
1075	$\nu$ Mensæ	6.0	29 49.120	75.7	-5.5025+.3826	+1.03	-.0019+41	.07	.54	.20
1076	Br 632	4.4	30 9.535	73.1	+3.2921+.0086	-.005	+0.0030 0	.15	.57	.26
1077	$\alpha$ Tauri	0.9	30 10.911	66.2	+3.4385+.0102	-.007	+0.0048-1	.02	.11	.05
1078	Br 635	6.7	31 2.405	67.4	+2.9889+.0057	-.002	-.0009 0	.14	.80	.37
1079	$\nu$ Eridani	4.1	31 19.306	82.2	+2.9954+.0058	-.002	.0000 0	.04	.27	.09
1080	$\nu$ Eridani	3.8	31 39.750	75.6	+2.3305+.0032	.000	-.0046 0	.08	.36	.15
1081	$\alpha$ Doradus	3.4	31 50.114	71.3	+1.2926+.0097	-.004	+0.0061 0	.10	.39	.18
1082	Br 629	5.4	32 2.019	65.8	+4.7109+.0362	-.040	+0.0012 0	.12	.54	.27
1083	Br 628 <i>m</i>	5.6	32 2.503	67.1	+4.7410+.0366	-.041	+0.0075-1	.12	.44	.22
1084	Br 640	5.5	32 4.413	72.5	+3.0888+.0065	-.003	-.0008 0	.13	.48	.22
1085	Pulk <sub>ss</sub> 697	6.0	32 21.821	91.9	+3.5352+.0116	-.008	-.0003 0	.12	.81	.19
1086	Br 638	6.1	32 25.889	61.4	+3.4302+.0101	-.007	+0.0062 0	.13	.44	.25
1087	Br 639	4.5	32 34.019	74.8	+3.3501+.0091	-.006	+0.0071 0	.10	.44	.19
1088	Br 642	5.5	32 34.101	74.9	+3.0174+.0058	-.002	+0.0030 0	.12	.48	.21
1089	$\sigma^1$ Tauri	5.2	33 26.503	56.0	+3.4214+.0099	-.007	+0.0021 0	.14	.38	.24
1090	$\sigma^2$ Tauri	4.9	33 33.233	61.6	+3.4278+.0100	-.007	+0.0057 0	.11	.34	.20
1091	Br 647	4.0	33 36.007	75.5	+2.7456+.0040	-.001	-.0054-1	.04	.24	.09
1092	Pi 146	5.6	33 41.138	92.2	+3.2453+.0079	-.005	+0.0055 0	.13	.58	.16
1093	Groomb 860	5.9	33 56.384	73.0	+4.4624+.0289	-.031	+0.0040 0	.15	.54	.25
1094	L 1543	6.9	34 3.878	91.0	+1.9517+.0042	-.001	+0.0020 0	.13	.69	.18
1095	Pi 154	5.1	34 13.716	76.7	+2.7976+.0044	-.001	-.0030 0	.14	.75	.29
1096	L 1707	7.1	34 28.777	80.3	-7.2467+.5277		-.0117+7	.07	.68	.21
1097	Br 646	5.8	34 29.316	60.0	+3.3374+.0088	-.006	+0.0005 0	.12	.42	.24
1098	Br 650	5.8	34 43.777	71.7	+2.7584+.0040	-.001	+0.0093-1	.12	.52	.23
1099	Pi 148	5.9	35 4.137	75.1	+3.7498+.0143	-.012	+0.0033 0	.11	.50	.20
1100	Pi 112	6.1	4 35 22.209	83.2	+7.9950+.1801	-.330	+0.0117-12	.04	.33	.10

1051  $\Sigma$  554.  $9^m 0 < 2''$ ; binary, extr. close in 1900.

1073. 243 G Eridani.

1070  $\beta$  881.  $10^m 11.5 50^\circ$ .1076.  $8^m 69'' 299^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors, $\delta \text{Ep. } 100 \mu' \text{ } \delta 10$	Remarks.
	" " "		" "	"	"	" " "	
1051	+15 25 10.35	71.6	+ 8.107-.460	-.10	-.012- 1	.08 .28 .13	80 Tauri *
1052	-13 16 7.24	91.4	+ 8.115-.375	-.06	-.001 0	.13 .88 .21	228 G Eridani
1053	-80 26 53.60	79.8	+ 8.160+.555	-.75	+.065- 1	.08 .51 .17	
1054	+15 58 35.06	71.6	+ 8.055-.462	-.10	-.032- 1	.09 .39 .17	
1055	+15 28 27.81	73.5	+ 8.048-.460	-.10	-.030- 1	.09 .29 .14	81 Tauri
1056	+13 30 24.99	78.7	+ 8.054-.454	-.10	-.020- 1	.11 .37 .16	83 Tauri
1057	+14 53 22.20	75.9	+ 7.988-.458	-.10	-.050 0	.11 .33 .16	84 Tauri
1058	+15 38 13.18	63.7	+ 7.951-.462	-.10	-.031- 1	.10 .38 .20	85 Tauri
1059	-23 14 27.34	87.4	+ 7.983-.344	-.05	+.015 0	.12 1.02 .26	230 G Eridani
1060	+42 49 12.05	68.9	+ 7.895-.567	-.17	-.073 0	.10 .45 .21	
1061	+42 51 1.41	75.9	+ 7.964-.567	-.17	+.001 0	.07 .30 .12	57 Persei <i>m</i>
1062	-62 44 27.02	80.9	+ 7.955-.095	-.05	+.010+ 1	.14 .64 .23	32 G Reticuli
1063	-0 15 30.38	75.1	+ 7.930-.414	-.07	-.003 0	.08 .37 .15	45 Eridani
1064	+64 3 9.18	92.8	+ 7.897-.753	-.36	-.015 0	.13 .75 .18	
1065	-35 52 13.36	74.1	+ 7.923-.296	-.04	+.012 0	.13 .75 .30	233 G Eridani
1066	-45 10 6.32	74.3	+ 7.839-.250	-.03	-.012 0	.10 .48 .20	
1067	+14 38 3.26	71.2	+ 7.793-.461	-.09	-.026- 1	.09 .28 .14	
1068	+28 45 7.62	74.1	+ 7.781-.507	-.12	-.022 0	.11 .51 .21	
1069	+5 21 32.01	87.5	+ 7.746-.431	-.08	-.021 0	.11 .64 .18	
1070	-6 56 54.95	72.8	+ 7.743-.396	-.06	-.006 0	.11 .42 .19	46 Eridani *
1071	-8 26 26.19	72.9	+ 7.731-.391	-.06	+.009 0	.08 .34 .15	47 Eridani
1072	-9 10 34.63	92.2	+ 7.604-.389	-.06	-.115 0	.12 .83 .19	
1073	-29 58 7.25	77.6	+ 7.432-.319	-.04	-.273+ 1	.09 .51 .19	50 Eridani $v^1$ ( $v^6$ ) *
1074	+41 3 33.72	60.5	+ 7.667-.561	-.16	-.024 0	.10 .37 .21	58 Persei <i>e</i>
1075	-81 48 24.81	76.6	+ 7.824+.738	-1.06	+.138 0	.07 .47 .17	
1076	+9 57 19.84	65.8	+ 7.610-.447	-.09	-.049 0	.11 .45 .23	88 Tauri <i>d</i> *
1077	+16 18 29.77	64.2	+ 7.466-.467	-.09	-.191- 1	.02 .11 .06	Aldebaran
1078	-3 49 0.88	65.4	+ 7.555-.406	-.07	-.032 0	.12 .67 .32	$\Sigma$ 571. 11 <sup>M</sup> 17" 259°
1079	-3 33 24.82	82.9	+ 7.563-.408	-.07	-.002 0	.04 .26 .08	
1080	-30 46 1.04	73.1	+ 7.533-.318	-.04	-.004+ 1	.08 .36 .16	Br 645. Also $v^2$ and $v^7$
1081	-55 15 5.95	73.8	+ 7.521-.179	-.03	-.002- 1	.09 .37 .16	
1082	+52 52 49.18	55.7	+ 7.489-.640	-.22	-.018 0	.12 .37 .23	3 Camelopardi *
1083	+53 16 34.18	60.1	+ 7.416-.645	-.22	-.090- 1	.09 .29 .17	2 Camelopardi *
1084	+0 47 44.42	74.2	+ 7.490-.421	-.07	-.014 0	.10 .42 .18	49 Eridani
1085	+20 29 1.94	91.1	+ 7.482-.481	-.10	+.002 0	.12 .73 .18	
1086	+15 49 58.31	64.7	+ 7.446-.468	-.09	-.029- 1	.13 .51 .26	89 Tauri
1087	+12 18 36.83	69.4	+ 7.454-.458	-.09	-.010- 1	.09 .35 .17	90 Tauri <i>c</i> ( <i>c</i> <sup>1</sup> )
1088	-2 40 24.19	71.1	+ 7.414-.412	-.07	-.050 0	.10 .39 .18	51 Eridani <i>c</i>
1089	+15 36 10.86	63.2	+ 7.326-.467	-.09	-.067 0	.13 .49 .26	Br 641. 91 Tauri
1090	+15 43 11.56	64.8	+ 7.363-.468	-.09	-.020- 1	.10 .41 .21	Br 643. 92 Tauri
1091	-14 29 58.07	76.8	+ 7.219-.374	-.05	-.161+ 1	.06 .30 .11	53 Eridani ( <i>l</i> ), 254 G
1092	+7 40 20.22	86.1	+ 7.372-.444	-.08	-.001- 1	.12 .46 .16	
1093	+48 6 23.25	72.0	+ 7.318-.609	-.18	-.034 0	.13 .53 .24	
1094	-42 4 28.78	85.2	+ 7.388-.268	-.03	+.046 0	.11 .49 .16	8 G Caeli
1095	-12 19 15.95	75.8	+ 7.318-.382	-.06	-.011 0	.12 .61 .24	
1096	-83 6 55.63	80.0	+ 7.317+.982		+.009+ 2	.06 .65 .20	12 G Mensæ
1097	+12 0 3.64	56.2	+ 7.281-.456	-.09	-.026 0	.11 .45 .27	93 Tauri ( <i>c</i> <sup>2</sup> )
1098	-14 33 11.04	70.8	+ 7.159-.379	-.05	-.129- 1	.11 .43 .20	
1099	+28 25 16.27	73.1	+ 7.218-.513	-.11	-.042 0	.10 .45 .19	
1100	+75 45 33.39	85.0	+ 7.105-1.092	-.80	-.131- 2	.05 .39 .11	Groomb 848

1082  $\beta$  1043. 12<sup>M</sup> 4" 295°.1083  $\Sigma$  566. 8<sup>M</sup> 1'6 290°, slow; A itself double =  $\beta$  1295, close binary



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			h	m	s					$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1101	R Doradus	Var.	4	35	35.632	88.5	+0.6873+.0181	-.009	-.0127- 2	.18	1.05	.29
1102	Groomb 866	6.0	35	45.423	71.0	+4.5477+.0304	-.034	+0.004	0	.14	.45	.22
1103	Br 644	5.4	35	48.573	62.0	+4.2467+.0234	-.025	+0.0041	0	.15	.45	.26
1104	Pi 167	5.8	35	57.245	82.8	+2.4942+.0034	.000	-0.0049	0	.10	.57	.18
1105	Br 653	4.5	36	4.020	69.4	+2.6232+.0036	-.001	+0.0017-	1	.08	.32	.15
1106	Pi 158	7.8	36	12.013	81.1	+3.5941+.0119	-.010	-0.0016	0	.11	.72	.24
1107	$\tau$ Tauri	4.3	36	14.517	77.9	+3.5965+.0119	-.010	+0.004	0	.03	.18	.07
1108	L 1558	6.7	36	35.635	88.3	+1.4809+.0074	-.003	-0.0004	0	.16	.87	.25
1109	Br 652	6.4	37	10.400	66.0	+3.6273+.0122	-.010	+0.0010	0	.13	.46	.24
1110	$\alpha$ Caeli	4.6	37	20.404	69.4	+1.9312+.0040	-.001	-0.0130-	1	.10	.45	.20
1111	$\beta$ Caeli	5.3	38	31.290	81.6	+2.1189+.0039	.000	+0.0024+	2	.10	.46	.17
1112	Br 655 <sup>1</sup>	7.5	38	46.853	77.2	+2.8763+.0047	-.002	+0.0021	0	.15	.88	.33
1113	Br 655 <sup>2</sup>	6.7	38	47.311	66.0	+2.8766+.0047	-.002	+0.0024	0	.14	.45	.24
1114	Pi 169	5.5	38	53.238	64.3	+3.3217+.0083	-.006	+0.0066	0	.12	.60	.30
1115	Br 656	6.0	39	16.990	68.1	+2.8803+.0048	-.002	-0.0003	0	.13	.42	.22
1116	L 1564	5.8	39	17.384	81.1	+2.3176+.0031	.000	-0.0024	0	.13	.72	.25
1117	Br 649	5.4	39	40.249	79.8	+4.9810+.0395	-.053	+0.0065-	3	.04	.24	.09
1118	Lal 8951	5.9	39	43.035	96.7	+2.6473+.0037	-.001	+0.0036	0	.15	1.22	.22
1119	$\lambda$ Pictoris	5.4	40	12.601	85.0	+1.5341+.0068	-.002	-0.0050+	1	.13	.66	.21
1120	Pi 179	6.4	40	26.387	80.2	+3.4988+.0101	-.008	+0.0046	0	.09	.51	.18
1121	L 1578	6.3	40	27.007	86.7	+1.9713+.0040	-.001	+0.0011	0	.14	.82	.24
1122	Pulk <sub>85</sub> 721	5.6	40	28.009	88.9	+3.3331+.0083	-.006	+0.0045	0	.11	.64	.18
1123	$\mu$ Eridani	4.2	40	30.106	75.0	+2.9981+.0054	-.002	+0.0013	0	.03	.21	.08
1124	Groomb 856	5.5	41	37.337	70.6	+11.0461+.3968	-1.087	-0.0010+	8	.06	.33	.15
1125	L 1587	7.1	42	7.544	85.8	+2.2186+.0033	.000	+0.0022	0	.11	.60	.18
1126	Pi 197	6.3	42	26.186	79.0	+2.3940+.0033	.000	-0.0005	0	.12	.52	.20
1127	L 1594	6.2	42	32.717	82.6	+2.0277+.0037	-.001	-0.0039	0	.11	.56	.19
1128	Pi 170	5.9	42	43.554	64.6	+5.5920+.0562	-.089	+0.0083-	2	.12	.39	.22
1129	Pulk <sub>85</sub> 723	5.9	42	48.182	90.6	+3.8399+.0144	-.015	+0.0017-	1	.12	.70	.18
1130	$\kappa$ Doradus	5.5	42	50.519	81.6	+0.8955+.0141	-.007	+0.0007+	1	.13	.68	.23
1131	Pi 190	7.2	42	50.736	75.4	+3.5086+.0094	-.008	+0.0131-	2	.09	.42	.17
1132	Br 664	5.8	43	6.849	65.4	+2.6931+.0040	-.001	+0.0094+	1	.12	.40	.21
1133	Br 658	5.2	43	10.657	69.2	+4.0313+.0177	-.020	-0.0029	0	.12	.48	.23
1134	Pi 184	6.0	43	38.079	70.8	+4.5002+.0265	-.035	-0.0031-	1	.15	.62	.28
1135	$\zeta$ Caeli	6.7	43	55.511	83.6	+2.3396+.0034	.000	+0.0026+	1	.12	.68	.21
1136	Br 660	6.6	44	0.789	69.1	+3.4289+.0090	-.007	+0.0007	0	.10	.33	.17
1137	Br 668	6.2	44	2.520	69.1	+2.6987+.0039	-.001	+0.0008	0	.15	.52	.26
1138	$\mu$ Mensae	5.9	44	3.667	83.6	-0.6222+.0477	-.013	-0.0004+	2	.12	.69	.22
1139	$\alpha$ Camelopardi	4.3	44	6.329	74.8	+5.9354+.0676	-.114	+0.0012	0	.03	.20	.08
1140	Br 663	3.2	44	24.670	72.8	+3.2544+.0071	-.005	+0.0316	0	.04	.21	.09
1141	Br 667	4.5	45	9.658	69.2	+3.2663+.0074	-.006	-0.0004	0	.11	.40	.20
1142	L 1616	6.9	45	29.227	82.2	+1.8442+.0045	-.001	+0.0015	0	.16	.82	.28
1143	Br 666	5.2	45	31.387	76.7	+3.5062+.0097	-.009	+0.0059	0	.07	.33	.13
1144	Br 661	7.2	45	38.438	76.8	+4.0143+.0167	-.019	+0.0055	0	.15	.66	.27
1145	Br 673	5.3	45	41.158	72.7	+2.7028+.0039	-.001	+0.0031	0	.09	.40	.18
1146	Groomb 889	5.8	45	43.904	87.0	+4.2310+.0205	-.026	+0.0011	0	.13	.48	.17
1147	Br 670	3.8	45	52.755	77.6	+3.1926+.0067	-.004	-0.0003	0	.04	.26	.09
1148	Br 662	5.0	45	56.288	69.2	+4.0101+.0166	-.019	-0.0011	0	.12	.45	.22
1149	Br 672	5.1	46	52.480	61.6	+3.3907+.0083	-.007	.0000	0	.10	.44	.23
1150	Br 659	5.8	46	52.565	78.8	+4.8910+.0343	-.051	.0000	0	.12	.42	.17

1101. 5<sup>M</sup>0 to 6<sup>M</sup>7.1150  $\beta$  1187. 13<sup>M</sup> 13" 246<sup>o</sup>.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
1101	-62 16 27.36	86.7	+ 7.130-.095	-.04	-.087+ 2	.15	.89	.26	L 1567; 9 G Doradus*
1102	+49 46 57.66	67.9	+ 7.177-.622	-.19	-.027 0	.14	.47	.24	
1103	+43 10 28.78	57.7	+ 7.150-.582	-.16	-.050- 1	.11	.40	.24	59 Persei
1104	-24 40 40.31	84.2	+ 7.207-.342	-.04	+ .019+ 1	.09	.49	.15	258 G Eridani
1105	-19 51 48.07	74.5	+ 7.089-.360	-.04	-.090 0	.08	.31	.14	54 Eridani
1106	+22 45 1.14	72.8	+ 7.126-.492	-.10	-.042 0	.11	.56	.24	
1107	+22 45 54.31	73.8	+ 7.142-.493	-.10	-.022 0	.04	.19	.08	
1108	-51 52 7.36	82.6	+ 7.149-.205	-.03	+ .013 0	.13	.59	.21	1 G Pictoris
1109	+23 53 57.73	63.0	+ 7.060-.498	-.10	-.028 0	.12	.41	.23	95 Tauri
1110	-42 3 16.84	72.2	+ 6.985-.265	-.03	-.089+ 2	.10	.49	.21	12 <sup>m</sup> 6" 112°
1111	-37 20 23.06	76.9	+ 7.165-.293	-.03	+ .187 0	.10	.44	.18	
1112	- 8 58 52.44	74.9	+ 6.946-.397	-.05	-.010 0	.11	.61	.24	} 55 Eridani 2 590. 9" 316°
1113	- 8 58 59.67	65.7	+ 6.930-.397	-.05	-.026 0	.11	.40	.21	
1114	+10 57 35.32	60.9	+ 6.934-.458	-.08	-.014- 1	.10	.54	.28	
1115	- 8 41 25.28	69.8	+ 6.903-.397	-.05	-.012 0	.11	.39	.19	56 Eridani
1116	-30 57 4.95	76.9	+ 6.858-.320	-.04	-.057 0	.12	.61	.24	12 G Caeli
1117	+56 34 46.62	71.7	+ 6.735-.686	-.23	-.148- 1	.05	.21	.10	4 Camelopardi
1118	-18 51 8.04	95.7	+ 6.888-.366	-.04	+ .008 0	.16	1.15	.23	264 G Eridani
1119	-50 40 9.85	79.8	+ 6.870-.212	-.03	+ .031+ 1	.11	.46	.18	
1120	+18 33 13.83	76.7	+ 6.757-.483	-.09	-.063- 1	.09	.45	.18	
1121	-41 15 2.78	80.4	+ 6.836-.273	-.03	+ .017 0	.12	.59	.21	13 G Caeli
1122	+11 31 22.00	84.2	+ 6.817-.460	-.08	-.001- 1	.11	.51	.17	
1123	- 3 26 16.50	77.7	+ 6.805-.414	-.06	-.010 0	.04	.24	.09	
1124	+81 1 41.24	73.1	+ 6.754-1.520	-1.60	+ .031 0	.08	.35	.15	
1125	-34 11 12.97	77.4	+ 6.693-.308	-.03	+ .012 0	.12	.55	.22	14 G Caeli
1126	-28 16 5.75	81.7	+ 6.671-.332	-.04	+ .015 0	.11	.51	.18	268 G Eridani
1127	-39 32 13.02	76.0	+ 6.627-.281	-.03	-.020 0	.11	.50	.20	15 G Caeli
1128	+63 20 4.59	66.3	+ 6.536-.773	-.30	-.096- 1	.13	.42	.22	
1129	+31 15 48.58	88.9	+ 6.513-.531	-.11	-.113 0	.12	.61	.18	
1130	-59 54 58.08	80.9	+ 6.659-.126	-.04	+ .037 0	.10	.55	.19	
1131	+18 32 33.59	69.8	+ 6.223-.487	-.09	-.399- 2	.08	.34	.16	
1132	-17 7 2.91	66.8	+ 6.771-.375	-.05	+ .171- 1	.10	.37	.19	58 Eridani
1133	+37 18 42.04	65.9	+ 6.624-.557	-.13	+ .029 0	.11	.45	.23	1 Aurigæ
1134	+48 34 4.81	62.7	+ 6.505-.622	-.16	-.052 0	.13	.51	.27	
1135	-30 11 59.80	78.8	+ 6.630-.326	-.04	+ .097 0	.11	.50	.19	
1136	+15 43 46.99	60.1	+ 6.512-.476	-.08	-.014 0	.11	.46	.26	96 Tauri
1137	-16 30 23.59	72.2	+ 6.567-.375	-.05	+ .044 0	.13	.47	.22	59 Eridani
1138	-71 6 51.55	81.8	+ 6.553+.083	-.11	+ .031 0	.10	.50	.17	
1139	+66 10 22.51	72.2	+ 6.523-.821	-.34	+ .005 0	.03	.16	.07	
1140	+ 6 47 12.24	71.4	+ 6.513-.456	-.07	+ .020- 4	.04	.20	.09	1 Orionis ( $\pi^1$ or $\pi^2$ )
1141	+ 8 43 43.07	59.3	+ 6.398-.454	-.07	-.032 0	.08	.26	.16	2 Orionis $\pi^2$
1142	-44 9 18.26	77.8	+ 6.430-.258	-.03	+ .026 0	.14	.64	.25	17 G Caeli
1143	+18 40 11.01	77.4	+ 6.364-.488	-.08	-.036- 1	.06	.30	.11	97 Tauri $i$
1144	+36 28 23.32	71.9	+ 6.355-.558	-.12	-.036- 1	.12	.60	.26	
1145	-16 23 27.36	74.6	+ 6.449-.376	-.05	+ .062 0	.09	.43	.18	60 Eridani
1146	+42 25 2.80	79.8	+ 6.377-.588	-.14	-.006 0	.12	.39	.17	
1147	+ 5 26 2.77	80.7	+ 6.365-.444	-.06	-.006 0	.05	.30	.10	3 Orionis $\pi^3$ or $\pi^4$
1148	+36 32 2.58	67.0	+ 6.344-.557	-.12	-.022 0	.09	.38	.18	2 Aurigæ
1149	+14 5 2.54	56.3	+ 6.229-.472	-.07	-.059 0	.10	.37	.22	4 Orionis $\sigma^1$
1150	+55 5 38.59	74.6	+ 6.281-.680	-.20	-.007 0	.11	.28	.15	5 Camelopardi *

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1151	L 1626	6.3	4 47 1.077	81.6			+1.9493+.0041	-.001	-.0004+ 1	.14	.66	.23
1152	L 1628	6.1	47 49.869	78.3			+2.1821+.0033	.000	+.0020 0	.13	.66	.24
1153	$\omega$ Eridani	4.5	47 58.837	63.4			+2.9460+.0049	-.002	-.0013 0	.10	.36	.20
1154	Br 675	5.8	48 9.822	72.8			+3.1263+.0060	-.004	+.0019 0	.09	.38	.17
1155	Groomb 892	6.0	48 11.538	89.0			+4.7428+.0302	-.045	+.0011 0	.13	.51	.17
1156	Br 665	7.1	48 34.453	67.3			+4.9345+.0344	-.054	-.0001- 1	.12	.42	.21
1157	$\iota$ Pictoris	5.8	48 41.454	79.8			+1.3342+.0083	-.004	-.0104+ 2	.16	.68	.26
1158	Brisb 811	6.7	48 42.601	84.7			+1.3345+.0083	-.004	-.0102+ 2	.18	.78	.27
1159	Br 680	3.8	49 2.500	80.2			+3.1228+.0060	-.004	-.0002 0	.04	.24	.08
1160	Br 678	5.4	49 14.036	82.9			+3.3251+.0077	-.006	-.0008 0	.11	.33	.14
1161	Br 669	4.5	49 16.109	68.9			+4.7973+.0310	-.048	-.0016 0	.09	.27	.14
1162	Pi 236	5.7	49 23.309	88.7			+3.2416+.0069	-.005	-.0011 0	.12	.51	.16
1163	Br 679	4.8	49 23.436	73.1			+3.3004+.0072	-.006	+.0037- 1	.09	.33	.15
1164	Pi 191	6.3	49 38.591	75.0			+7.5561+.1286	-.303	+.0071+ 4	.11	.51	.21
1165	Paris 5639	6.0	50 8.633	96.6			+3.4121+.0083	-.007	+.0010 0	.15	.78	.18
1166	$\Delta$ bo 115	6.6	50 10.089	78.2			+3.6511+.0109	-.012	-.0004 0	.10	.60	.22
1167	$\epsilon$ Aurigæ	2.8	50 28.813	76.1			+3.9016+.0141	-.017	+.0007 0	.03	.18	.07
1168	Paris 5653	6.0	50 38.123	95.8			+2.6848+.0037	-.001	+.0001 0	.13	.82	.18
1169	Br 682	4.4	50 44.842	64.8			+3.3697+.0079	-.007	-.0056 0	.10	.46	.23
1170	Paris 5658	6.0	50 49.158	94.3			+2.6922+.0038	-.001	-.0002 0	.12	.94	.19
1171	L 1648	7.0	51 24.678	80.1			+2.4543+.0033	-.001	+.0017 0	.11	.66	.23
1172	Br 689	5.6	51 28.650	70.7			+2.9526+.0048	-.003	-.0006 0	.11	.50	.22
1173	L 1658	6.1	51 33.872	82.5			+2.0076+.0037	-.001	-.0009 0	.14	.68	.23
1174	Br 686	5.9	51 35.715	72.2			+3.4623+.0087	-.008	-.0005 0	.11	.48	.21
1175	Br 684	6.1	51 44.520	72.9			+3.6360+.0105	-.011	+.0004 0	.13	.58	.25
1176	Br 674	6.5	51 48.252	75.2			+4.7679+.0292	-.047	-.0001 0	.12	.50	.21
1177	Br 685	5.9	52 2.130	70.8			+3.6677+.0108	-.012	+.0022 0	.09	.42	.19
1178	Br 683	5.1	52 28.037	63.6			+4.0664+.0159	-.021	+.0042- 1	.13	.45	.24
1179	Br 671	6.5	52 42.222	71.7			+6.0529+.0604	-.129	+.0125- 13	.09	.39	.18
1180	L 1679	6.4	53 14.517	82.5			+0.9760+.0118	-.006	+.0098+ 1	.16	.78	.27
1181	Br 695	4.7	53 21.887	70.8			+3.1070+.0056	-.004	-.0002 0	.10	.33	.16
1182	Br 687	6.1	53 25.782	64.7			+4.1172+.0167	-.023	-.0011 0	.13	.39	.22
1183	Br 688	6.9	53 29.564	67.6			+4.1284+.0169	-.023	+.0003 0	.12	.46	.23
1184	Br 694	7.0	53 59.951	63.1			+3.4409+.0082	-.008	+.0068 0	.14	.44	.25
1185	$\beta$ Camelopardi	4.2	54 31.217	75.3			+5.3204+.0407	-.077	+.0003 0	.04	.26	.10
1186	Paris 5739	5.8	54 32.912	96.8			+2.6805+.0039	-.001	-.0112+ 1	.14	1.12	.20
1187	$\epsilon$ Aurigæ	Var.	54 47.492	72.0			+4.2976+.0192	-.029	+.0005 0	.04	.15	.07
1188	Br 697	5.8	55 6.457	61.7			+2.8385+.0040	-.002	+.0019- 1	.10	.39	.21
1189	Br 699	5.0	55 16.931	82.2			+2.7865+.0038	-.002	+.0031- 1	.08	.45	.15
1190	$\zeta$ Aurigæ	3.9	55 29.186	72.8			+4.1866+.0172	-.025	+.0010 0	.04	.22	.10
1191	Radcl 1311	6.8	56 17.83	84.1			+20.727+.1386		+.030- 68	.08	.46	.14
1192	$\psi$ Eridani	4.9	56 35.412	69.1			+2.9072+.0044	-.002	.0000 0	.10	.33	.17
1193	Pi 285	5.1	57 5.265	82.5			+2.6018+.0034	-.001	+.0027 0	.13	.82	.26
1194	$\iota$ Tauri	4.8	57 7.049	77.2			+3.5825+.0092	-.010	+.0048 0	.04	.18	.07
1195	Br 691	5.3	57 26.758	64.6			+5.1998+.0360	-.071	-.0003 0	.11	.40	.22
1196	Br 692	6.5	57 30.013	73.0			+5.2056+.0360	-.071	+.0012- 1	.11	.45	.20
1197	$\eta$ Mensæ	5.4	58 3.454	76.8			-1.7626+.0726	+.017	+.0023+ 5	.08	.58	.21
1198	Pi 289	5.1	58 5.809	80.7			+2.4390+.0030	-.001	+.0065- 1	.08	.51	.17
1199	L 1700	6.2	58 14.794	82.3			+1.9974+.0037	-.001	+.0008 0	.12	.52	.19
1200	Br 704	6.0	4 58 31.694	75.4			+2.5316+.0033	-.001	+.0046 0	.12	.42	.19

1151 h 3697. 9<sup>M</sup> 14" 281°.1169  $\beta$  553. 12<sup>M</sup> 31" 49°.1161  $\Delta$  5. 8<sup>M</sup> 1" 293°;  $\Sigma$  610. 11<sup>M</sup> 26" 238°.1178  $\Sigma$  616 7<sup>M</sup> 5" 9 354°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>dt</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10			Remarks.
	" ' "		" " "	"	"	"	"	"	
1151	-41 29 35.88	77.2	+ 6.338-.272	-.03	+.062 0	.12	.52	.21	18 G Cæli *
1152	-35 4 26.86	70.4	+ 6.170-.305	-.03	-.039 0	.13	.61	.28	19 G Cæli
1153	- 5 37 11.47	68.3	+ 6.215-.411	-.05	+.019 0	.08	.32	.16	
1154	+ 2 20 34.62	66.2	+ 6.161-.436	-.06	-.020 0	.10	.37	.19	5 Orionis
1155	+52 42 24.76	82.7	+ 6.181-.661	-.18	+.002 0	.13	.40	.17	
1156	+55 39 48.87	60.8	+ 6.115-.687	-.20	-.032 0	.10	.34	.20	6 Camelopardi
1157	-53 37 54.39	75.8	+ 6.221-.186	-.03	+.084+ 2	.13	.51	.22	6 <sup>M</sup> 7 12" 58 <sup>o</sup>
1158	-53 37 47.80	78.9	+ 6.209-.186	-.03	+.073+ 1	.13	.58	.22	8 G Pictoris
1159	+ 2 16 37.04	80.4	+ 6.105-.436	-.06	-.003 0	.04	.26	.09	8 Orionis $\pi^5$
1160	+11 15 45.24	78.9	+ 6.116-.464	-.07	+.024 0	.10	.32	.14	6 Orionis g
1161	+53 35 31.44	58.0	+ 6.096-.669	-.19	+.007 0	.07	.20	.13	7 Camelopardi *
1162	+ 7 37 2.24	82.5	+ 6.051-.453	-.07	-.028 0	.11	.44	.16	Br. 3232
1163	+ 9 59 30.37	70.0	+ 5.945-.462	-.07	-.134 0	.08	.29	.14	7 Orionis $\pi^4$
1164	+74 6 53.02	74.1	+ 6.099-1.054	-.59	+.041- 1	.09	.42	.18	
1165	+14 52 48.43	93.5	+ 5.996-.477	-.07	-.020 0	.14	.71	.18	
1166	+24 25 56.85	73.1	+ 5.983-.510	-.09	-.031 0	.10	.47	.20	
1167	+33 0 27.84	71.9	+ 5.961-.545	-.11	-.027 0	.03	.19	.08	
1168	-16 54 4.78	91.0	+ 5.975-.376	-.05	.000 0	.14	.77	.20	
1169	+13 21 22.90	58.7	+ 5.905-.471	-.07	-.061+ 1	.09	.37	.21	9 Orionis $\alpha^2$ *
1170	-16 34 45.70	91.3	+ 6.022-.377	-.04	+.062 0	.13	.92	.22	
1171	-25 53 16.62	79.6	+ 5.930-.344	-.03	+.020 0	.12	.69	.24	1 G Leporis
1172	- 5 19 46.23	68.8	+ 5.909-.414	-.05	+.004 0	.10	.38	.19	62 Eridani b
1173	-39 47 21.83	78.2	+ 5.911-.282	-.02	+.013 0	.12	.53	.21	22 G Cæli
1174	+16 59 48.07	68.6	+ 5.876-.485	-.07	-.019 0	.10	.49	.23	
1175	+23 47 32.39	72.2	+ 5.858-.509	-.08	-.025 0	.12	.60	.26	99 Tauri
1176	+53 0 6.25	65.3	+ 5.866-.667	-.18	-.012 0	.12	.35	.20	8 Camelopardi
1177	+24 53 45.59	69.5	+ 5.798-.514	-.09	-.060 0	.08	.39	.18	98 Tauri k
1178	+37 44 20.66	57.4	+ 5.718-.570	-.12	-.104- 1	.10	.38	.22	4 Aurigæ (w) *
1179	+66 40 58.34	60.8	+ 5.455-.849	-.32	-.347- 2	.09	.40	.18	
1180	-58 42 27.70	80.0	+ 5.822-.140	-.03	+.065- 1	.14	.60	.23	18 G Doradus
1181	+ 1 33 37.95	74.7	+ 5.742-.436	-.05	-.005 0	.09	.34	.15	10 Orionis $\pi^8$
1182	+39 14 35.78	61.9	+ 5.744-.577	-.12	+.003 0	.10	.39	.21	5 Aurigæ *
1183	+39 30 12.61	65.1	+ 5.745-.579	-.12	+.009 0	.11	.40	.21	6 Aurigæ
1184	+15 45 57.55	65.5	+ 5.660-.484	-.07	-.034- 1	.12	.47	.24	101 Tauri
1185	+60 17 46.19	72.2	+ 5.637-.746	-.23	-.013 0	.04	.20	.09	
1186	-16 31 53.26	92.0	+ 5.817-.376	-.04	+.169+ 2	.14	1.04	.23	*
1187	+43 40 31.37	63.7	+ 5.614-.604	-.13	-.013 0	.04	.15	.08	3 <sup>M</sup> 0 to 4 <sup>M</sup> 5
1188	-10 24 34.71	63.1	+ 5.471-.400	-.04	-.130 0	.09	.35	.19	63 Eridani
1189	-12 41 5.61	76.1	+ 5.489-.393	-.04	-.097 0	.08	.38	.15	64 Eridani
1190	+40 55 47.52	71.0	+ 5.539-.589	-.12	-.030 0	.05	.23	.10	
1191	+85 49 46.36	86.0	+ 5.434-2.913		-.067- 4	.10	.55	.17	
1192	- 7 19 14.15	71.1	+ 5.487-.410	-.04	+.010 0	.08	.30	.14	
1193	-20 11 50.72	80.7	+ 5.419-.368	-.03	-.015 0	.11	.60	.21	5 G Leporis
1194	+21 26 49.83	73.0	+ 5.385-.506	-.08	-.047- 1	.04	.19	.08	
1195	+58 49 57.56	61.7	+ 5.397-.732	-.21	-.007 0	.10	.35	.20	11 Camelopardi
1196	+58 52 55.83	66.0	+ 5.361-.733	-.21	-.038 0	.11	.40	.21	12 Camelopardi
1197	-75 5 26.46	77.0	+ 5.406+.245	-.19	+.054 0	.07	.51	.18	
1198	-26 25 0.76	79.1	+ 5.264-.346	-.03	-.085- 1	.08	.40	.15	6 G Leporis
1199	-39 51 48.34	77.8	+ 5.359-.283	-.02	+.023 0	.11	.49	.19	25 G Cæli
1200	-22 56 17.41	78.0	+ 5.336-.358	-.03	+.023- 1	.12	.46	.19	1 Leporis. 7 G

1182  $\alpha^2$  92. 10<sup>M</sup> 3" 254<sup>o</sup>.1186  $\beta$  314. 6<sup>M</sup>8 1" 327<sup>o</sup>; 8<sup>M</sup>5 54" 31<sup>o</sup>.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.			
			$\alpha$ Ep.	100 $\mu$	$\alpha$ 10									
		M	h	m	s		s	s	s	s	"	"	"	
1201	L 1695	6.2	4	58	35.730	86.4	+2.2675	+0.0033	-.001	-.0021	0	.12	.93	.25
1202	Br 696	5.0		58	50.687	66.5	+4.6894	+0.0242	-.045	-.0016	-3	.09	.27	.15
1203	Br 702	4.8		58	51.256	71.1	+3.4255	+0.0076	-.008	+0.0013	0	.06	.28	.13
1204	$\eta$ Aurigæ	3.2		59	30.051	72.6	+4.2005	+0.0163	-.026	+0.0027	-1	.04	.18	.08
1205	L 1704	5.8		59	44.634	86.4	+2.4868	+0.0032	-.001	+0.0033	0	.16	1.06	.30
1206	Pi 254	5.6	4	59	45.430	75.0	+7.5236	+0.1069	-.317	+0.0040	-2	.10	.45	.19
1207	L 1717	5.6	5	0	11.718	83.6	+1.5659	+0.0056	-.003	-.0056	0	.14	.60	.21
1208	$\gamma$ Cæli	4.6		0	48.574	78.6	+2.1563	+0.0032	-.001	+0.0097	-1	.11	.51	.19
1209	L 1713	6.5		0	51.868	78.2	+2.1392	+0.0034	-.001	+0.0004	0	.15	.75	.28
1210	Pi 307	6.0	1	12	587	83.6	+2.4336	+0.0030	-.001	-.0002	0	.13	.58	.20
1211	$\epsilon$ Leporis	3.2	1	13	673	76.4	+2.5386	+0.0031	-.001	+0.0019	0	.04	.24	.09
1212	Br 705	5.1	1	32	327	64.2	+3.5433	+0.0082	-.009	+0.0380	0	.07	.26	.14
1213	Br 712	5.4	1	48	972	70.5	+2.9646	+0.0045	-.003	+0.0006	0	.13	.44	.21
1214	Br 708	5.4	1	53	282	67.2	+3.5476	+0.0084	-.010	-.0030	0	.10	.40	.20
1215	Br 707	6.1	1	56	627	63.7	+3.5843	+0.0087	-.012	+0.0004	0	.11	.39	.21
1216	Br 706	5.7	2	0	945	66.0	+3.6522	+0.0094	-.012	+0.0002	0	.10	.40	.21
1217	Br 709	6.5	2	9	520	65.9	+3.2858	+0.0058	-.006	+0.0004	-2	.11	.38	.20
1218	L 1728	5.0	2	22	485	80.2	+1.5488	+0.0056	-.003	+0.0035	0	.12	.70	.24
1219	Br 711 <i>m</i>	5.5	2	26	191	61.3	+3.2645	+0.0061	-.006	+0.0017	0	.14	.42	.25
1220	$\beta$ Eridani	2.8	2	56	001	79.7	+2.9482	+0.0043	-.003	-.0059	0	.04	.20	.07
1221	Br 710	6.8	2	56	256	65.8	+3.5372	+0.0082	-.010	+0.0003	0	.14	.36	.21
1222	Pi 294	5.8	3	16	017	71.3	+4.4604	+0.0188	-.035	+0.0064	-2	.13	.50	.23
1223	Br 718	5.9	3	32	795	69.8	+2.8718	+0.0040	-.002	.0000	0	.13	.63	.29
1224	Br 717	5.4	3	46	272	68.9	+2.9706	+0.0044	-.003	+0.0023	0	.14	.54	.26
1225	$\zeta$ Doradus	4.8	3	47	750	82.6	+1.0233	+0.0101	-.005	-.0054	+2	.13	.66	.22
1226	Br 716	5.7	3	49	546	81.4	+3.2990	+0.0062	-.006	+0.0050	0	.12	.38	.16
1227	Br 714	5.0	3	58	483	62.4	+3.4315	+0.0072	-.008	+0.0003	0	.10	.39	.21
1228	$\beta$ Mensæ	5.4	4	0	408	85.5	-0.7945	+0.0398	-.001	-.0022	+3	.14	.75	.23
1229	Br 703	6.7	4	12	735	58.4	+5.5668	+0.0402	-.097	-.0044	0	.12	.40	.24
1230	Pi 301	8.1	4	15	796	78.2	+4.4551	+0.0189	-.035	+0.0006	0	.18	.70	.29
1231	$\lambda$ Eridani	4.3	4	21	624	70.9	+2.8698	+0.0040	-.002	+0.0002	0	.05	.28	.12
1232	L 1737	7.0	5	17	464	88.8	+1.9218	+0.0044	-.001	-.0077	+3	.12	.72	.19
1233	Groomb 928	5.8	5	52	939	79.5	+7.3668	+0.0900	-.301	+0.0034	-2	.10	.48	.18
1234	Pi 1	5.4	5	56	853	71.3	+3.4432	+0.0071	-.009	+0.0002	0	.14	.62	.28
1235	Pi 269	5.2	6	4	166	79.6	+9.8035	+0.2023	-.871	-.0281	+24	.04	.26	.09
1236	$\mu$ Aurigæ	4.9	6	35	041	83.8	+4.1002	+0.0133	-.024	-.0015	-1	.04	.30	.09
1237	Br 724	6.1	6	42	828	77.9	+2.7983	+0.0038	-.002	+0.0018	0	.13	.69	.26
1238	L 1772	5.4	6	47	004	87.4	+0.4619	+0.0152	-.006	+0.0011	-2	.20	.87	.28
1239	$\iota$ Leporis	4.6	7	37	961	69.3	+2.7979	+0.0036	-.002	+0.0020	0	.12	.45	.22
1240	$\rho$ Orionis	4.6	8	3	726	66.2	+3.1346	+0.0050	-.005	-.0001	0	.12	.33	.19
1241	$\mu$ Leporis	3.2	8	26	363	86.7	+2.6936	+0.0033	-.001	+0.0028	0	.09	.52	.15
1242	$\kappa$ Leporis S*	4.6	8	36	788	70.9	+2.7689	+0.0036	-.002	-.0012	0	.15	.51	.25
1243	Br 729	6.6	8	44	803	72.8	+2.8833	+0.0039	-.003	+0.0003	0	.10	.40	.18
1244	Br 723	5.2	8	53	618	54.6	+3.9040	+0.0108	-.018	-.0010	0	.15	.40	.27
1245	Br 721	7.2	9	2	695	65.9	+4.4374	+0.0171	-.035	+0.0009	0	.13	.46	.24
1246	$\alpha$ Aurigæ	0.0	9	18	036	63.8	+4.4259	+0.0156	-.035	+0.0082	-5	.03	.12	.06
1247	Pulk <sub>ss</sub> 804	6.0	9	25	117	92.0	+3.1869	+0.0052	-.005	-.0005	0	.12	.70	.18
1248	Br 726	6.4	9	26	965	82.3	+3.6034	+0.0080	-.012	-.0003	0	.13	.34	.16
1249	Pulk <sub>ss</sub> 801	6.0	9	41	788	98.2	+3.9591	+0.0113	-.020	+0.0004	0	.14	1.00	.18
1250	$\beta$ Orionis	0.0	5	9	43.921	66.9	+2.8817	+0.0039	-.003	+0.0001	0	.02	.11	.05

1202  $\beta$  1046. 13<sup>M</sup> 6'' 92°.1219 OZ 98. 7<sup>M</sup> 1'' 172°, binary.1218  $\eta^2$  Pictoris.1232 h 3728. 10<sup>M</sup> 10'' 260°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10	Remarks.
	" ' "		" "	"	"	" " "	
1201	- 31 55 0.47	82.2	+ 5.364- .321	-.03	+ .057 0	.12 .93 .29	26 G Cæli
1202	+ 51 27 53.42	60.3	+ 5.109- .662	-.15	-.177 0	.08 .22 .13	9 Aurigæ *
1203	+ 15 15 53.43	71.7	+ 5.249- .484	-.06	-.036 0	.05 .28 .12	11 Orionis
1204	+ 41 5 57.36	67.8	+ 5.156- .594	-.11	-.075 0	.04 .18 .08	
1205	- 24 31 36.71	84.2	+ 5.203- .353	-.03	-.007 0	.17 1.55 .43	10 G Leporis
1206	+ 73 49 3.54	68.6	+ 5.177- 1.062	-.49	-.032- 1	.08 .30 .15	
1207	- 49 17 34.39	82.4	+ 5.185- .222	-.02	+ .013+ 1	.11 .51 .18	10 G Pictoris $\eta^1$
1208	- 35 37 11.47	68.3	+ 5.069- .307	-.02	-.051- 1	.12 .53 .25	9 <sup>M</sup> 6 3" 310°
1209	- 35 50 39.75	70.2	+ 5.142- .304	-.02	+ .027 0	.13 .64 .29	
1210	- 26 17 14.12	82.1	+ 5.019- .345	-.03	-.067 0	.11 .47 .17	13 G Leporis
1211	- 22 30 18.93	76.9	+ 5.018- .360	-.03	-.067 0	.05 .25 .10	
1212	+ 18 30 38.85	60.8	+ 5.070- .507	-.07	+ .011- 5	.06 .22 .12	104 Tauri <i>m</i>
1213	- 4 47 21.00	71.7	+ 5.043- .420	-.04	+ .008 0	.11 .43 .20	66 Eridani
1214	+ 20 17 10.98	62.8	+ 4.979- .502	-.07	-.050 0	.09 .42 .22	106 Tauri <i>l</i>
1215	+ 21 34 20.47	55.2	+ 5.008- .508	-.07	-.016 0	.10 .34 .21	105 Tauri
1216	+ 24 7 58.84	63.9	+ 5.007- .518	-.08	-.011 0	.09 .45 .22	103 Tauri
1217	+ 9 20 59.20	58.0	+ 4.625- .466	-.06	-.381 0	.10 .34 .20	13 Orionis
1218	- 49 42 47.86	80.1	+ 4.995- .221	-.02	+ .007 0	.11 .64 .22	11 G Centauri $\eta^2$ *
1219	+ 8 22 5.48	65.4	+ 4.921- .463	-.06	-.061 0	.12 .47 .24	14 Orionis <i>i</i> *
1220	- 5 12 56.44	80.0	+ 4.861- .418	-.04	-.079+ 1	.04 .20 .07	
1221	+ 19 43 47.91	67.8	+ 4.922- .502	-.07	-.018 0	.13 .45 .23	107 Tauri
1222	+ 46 50 18.38	65.4	+ 4.755- .633	-.12	-.157- 1	.11 .39 .21	
1223	- 8 47 41.85	68.8	+ 4.874- .408	-.04	-.014 0	.10 .50 .23	$\Sigma$ 649. 8 <sup>M</sup> 5 21" 75°
1224	- 4 35 9.88	71.2	+ 4.892- .422	-.04	+ .023 0	.12 .46 .22	68 Eridani
1225	- 57 36 33.34	82.4	+ 4.972- .146	-.03	+ .105+ 1	.11 .56 .19	
1226	+ 9 42 3.81	78.0	+ 4.858- .469	-.06	-.006- 1	.11 .36 .16	16 Orionis <i>h</i>
1227	+ 15 28 10.71	62.8	+ 4.842- .487	-.06	-.010 0	.08 .34 .18	15 Orionis
1228	- 71 27 2.70	87.3	+ 4.896+ .110	-.10	+ .047 0	.11 .77 .21	
1229	+ 62 34 5.12	53.4	+ 4.845- .789	-.22	+ .013+ 1	.11 .33 .22	14 Camelopardi
1230	+ 46 49 1.35	71.5	+ 4.835- .633	-.12	+ .008 0	.17 .56 .28	
1231	- 8 52 56.39	74.1	+ 4.811- .408	-.04	-.008 0	.06 .29 .12	
1232	- 41 20 58.52	84.3	+ 5.026- .273	-.02	+ .286+ 1	.10 .56 .18	2 G Columbæ *
1233	+ 73 9 11.56	78.2	+ 4.654- 1.047	-.43	-.036 0	.10 .34 .15	
1234	+ 15 55 19.27	68.1	+ 4.686- .490	-.05	+ .002 0	.12 .53 .25	
1235	+ 79 6 59.13	77.6	+ 4.829- 1.388	-.84	+ .155+ 4	.04 .23 .09	19 H Camelopardi *
1236	+ 38 21 57.88	75.7	+ 4.556- .583	-.09	-.074 0	.06 .27 .11	
1237	- 11 58 25.14	76.5	+ 4.663- .399	-.04	+ .044 0	.11 .50 .20	
1238	- 63 31 32.48	84.8	+ 4.566- .068	-.04	-.047 0	.15 .71 .23	21 G Doradus
1239	- 11 59 21.19	62.5	+ 4.527- .399	-.04	-.014 0	.10 .33 .19	$\Sigma$ 655. 10 <sup>M</sup> 12" 337°
1240	+ 2 44 31.56	62.2	+ 4.489- .447	-.04	-.015 0	.10 .30 .17	$\Sigma$ 654. 8 <sup>M</sup> 3 7" 63°
1241	- 16 19 25.68	79.8	+ 4.444- .385	-.03	-.028 0	.08 .30 .12	
1242	- 13 3 34.97	65.8	+ 4.445- .395	-.04	-.012 0	.11 .37 .20	$\Sigma$ 661. 7 <sup>M</sup> 5 2" 6 359°
1243	- 8 15 56.68	69.9	+ 4.436- .412	-.04	-.010 0	.09 .37 .17	
1244	+ 32 34 18.71	51.8	+ 4.442- .557	-.08	+ .009 0	.10 .37 .24	14 Aurigæ *
1245	+ 46 18 7.08	64.1	+ 4.412- .633	-.10	-.008 0	.11 .45 .23	12 Aurigæ
1246	+ 45 53 46.95	63.1	+ 3.970- .633	-.10	-.429- 1	.02 .11 .06	Capella
1247	+ 5 2 25.25	89.9	+ 4.404- .455	-.05	+ .015 0	.12 .61 .17	
1248	+ 22 10 13.58	78.4	+ 4.371- .514	-.06	-.015 0	.11 .36 .16	108 Tauri
1249	+ 34 11 51.67	94.2	+ 4.394- .565	-.08	+ .029 0	.13 .84 .19	
1250	- 8 19 1.67	67.0	+ 4.361- .412	-.04	-.001 0	.02 .12 .06	Rigel *

1235  $\Sigma$  634. 8<sup>M</sup> 0 14" 16°, large rel. mot.1244  $\Sigma$  653. 7<sup>M</sup> 4 14" 225°; 11<sup>M</sup> 11" 350°.1250  $\Sigma$  668. 8<sup>M</sup> 9' 5 202°; the comp. itself is a close double.



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors. a Ep. 100 $\mu$ a 10		
		<sup>m</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
1251	$\xi$ Mensæ	6.4	5 10 14.490	79.6	-6.9962+.2850	+.834	-.0144+ 7	.07	.63	.20
1252	Br 734	5.8	10 30.730	72.8	+3.3308+.0059	-.007	-.0007 0	.13	.68	.28
1253	Pi 8	6.4	10 50.230	73.8	+5.1657+.0276	-.072	+.0028 0	.12	.51	.22
1254	L 1773	6.0	10 56.595	90.1	+2.1214+.0032	-.001	+.0011 0	.13	.72	.20
1255	Arg N 5680	6.0	11 2.381	89.8	+5.5900+.0355	-.101	+.0037 0	.11	.90	.21
1256	Groomb 953	6.0	11 7.162	93.1	+4.2811+.0144	-.030	+.0041 0	.12	.54	.15
1257	Pi 35	5.2	11 23.644	85.0	+2.4055+.0030	-.001	+.0004 0	.15	.68	.22
1258	Br 733	4.7	11 36.885	76.2	+3.9352+.0103	-.019	+.0055- 2	.13	.62	.25
1259	$\lambda$ Aurigæ	4.8	12 6.333	73.9	+4.2159+.0117	-.026	+.0461- 6	.06	.26	.11
1260	Br 737	5.5	12 25.164	87.4	+3.9438+.0104	-.019	+.0012 0	.11	.56	.17
1261	L 1786	7.4	12 43.671	84.1	+2.2006+.0030	-.001	-.0011 0	.15	.82	.26
1262	$\tau$ Orionis	3.7	12 45.030	74.4	+2.9117+.0039	-.003	-.0011 0	.04	.21	.09
1263	Br 743	5.9	13 4.623	81.0	+2.7540+.0034	-.002	-.0011 0	.10	.44	.16
1264	Pi 311	7.0	13 6.705	73.7	+9.3472+.1472	-.751	+.0064-11	.09	.46	.20
1265	Pulk <sub>ss</sub> 813	5.6	13 13.297	91.1	+4.2096+.0130	-.027	+.0003- 1	.11	.75	.18
1266	Br 741	5.2	13 16.088	61.9	+3.6030+.0074	-.012	+.0021- 1	.10	.44	.23
1267	Pi 37	6.4	13 19.650	67.2	+3.5468+.0071	-.011	-.0027 0	.13	.48	.24
1268	Br 739	5.2	13 25.395	83.1	+3.9507+.0104	-.019	+.0003 0	.11	.45	.16
1269	$\theta$ Doradûs	4.8	13 49.926	79.2	-0.0586+.0210	-.004	-.0010+ 2	.11	.62	.22
1270	$\circ$ Columbæ	5.0	13 52.673	84.6	+2.1622+.0024	-.001	+.0065- 3	.07	.46	.14
1271	Br 744	5.5	13 58.208	53.6	+3.1283+.0046	-.005	-.0010 0	.14	.48	.30
1272	Pi 317	6.5	14 1.749	78.0	+9.1783+.1393	-.705	+.0045- 2	.09	.48	.18
1273	Pi 41	6.5	14 42.510	80.6	+3.7630+.0085	-.015	-.0019 0	.10	.64	.22
1274	$\rho$ Aurigæ	5.3	14 43.659	74.4	+4.2424+.0130	-.028	+.0023 0	.10	.38	.16
1275	Pi 42	5.8	14 50.991	77.0	+3.8131+.0089	-.017	+.0002 0	.14	.56	.23
1276	Br 735	5.3	14 53.947	77.1	+5.1288+.0246	-.070	+.0033- 1	.09	.45	.17
1277	$\lambda$ Leporis	4.3	14 58.089	60.4	+2.7630+.0034	-.002	.0000 0	.09	.32	.18
1278	$\nu$ Leporis	5.5	15 20.600	72.5	+2.7834+.0034	-.002	-.0002 0	.10	.46	.20
1279	Pi 59	5.9	15 24.528	84.1	+2.3898+.0029	-.001	-.0008 0	.11	.60	.19
1280	Radcl 1458	5.7	15 48.868	91.8	+4.2095+.0125	-.028	-.0003 0	.11	.66	.16
1281	Lal 10063	4.8	16 10.741	95.7	+2.5607+.0030	-.001	+.0010 0	.12	.92	.18
1282	Pulk <sub>ss</sub> 824	6.0	16 16.888	87.8	+3.2654+.0051	-.006	+.0009 0	.12	.57	.18
1283	Br 750	5.8	16 25.577	76.9	+3.0598+.0042	-.004	-.0007 0	.09	.39	.16
1284	Br 751	4.7	16 39.401	74.4	+3.0610+.0042	-.004	-.0003 0	.08	.34	.15
1285	L 1809	6.8	16 44.567	83.5	+2.1591+.0030	-.001	-.0009 0	.14	.86	.27
1286	Pi 61	7.9	16 50.069	76.9	+3.1526+.0046	-.005	+.0006 0	.10	.40	.16
1287	$\zeta$ Pictoris	5.7	16 54.893	82.8	+1.4681+.0059	-.003	+.0006+ 3	.13	.69	.23
1288	Br 746	6.7	17 2.831	77.0	+3.7973+.0084	-.016	+.0019 0	.11	.32	.15
1289	Br 753	5.2	17 34.618	62.9	+3.1515+.0045	-.005	.0000 0	.10	.40	.21
1290	L 1810	5.3	17 39.962	81.2	+2.4616+.0029	-.001	-.0018 0	.13	.57	.21
1291	Br 752	6.3	17 51.172	80.2	+3.4624+.0060	-.010	-.0018 0	.13	.33	.16
1292	$\sigma$ Aurigæ	5.3	17 51.309	73.4	+4.0729+.0106	-.024	-.0001 0	.10	.36	.16
1293	Pi 63	6.1	18 11.793	71.0	+3.8627+.0088	-.018	-.0009 0	.13	.57	.26
1294	Br 754	5.1	18 35.260	73.0	+3.4987+.0061	-.010	+.0171 0	.10	.45	.19
1295	Paris 6223	5.8	18 35.485	98.6	+3.0656+.0041	-.004	-.0010 0	.12	1.06	.17
1296	L 1826	8.3	18 35.991	95.4	+2.0241+.0033	-.001	+.0007 0	.15	1.32	.24
1297	Br 766	5.3	18 55.604	71.7	+2.7439+.0032	-.002	.0000 0	.13	.57	.26
1298	L 1836	7.2	19 1.719	91.8	+1.4124+.0055	-.003	+.0037 0	.15	.93	.23
1299	Br 764	4.2	19 7.762	78.3	+2.8885+.0035	-.003	-.0013 0	.12	.57	.21
1300	Br 762	5.3	5 19 23.821	77.4	+3.0494+.0042	-.004	-.0003+ 1	.11	.48	.19

1258 02 103. 11<sup>m</sup> 4" 55°.1281 h 3750. 9<sup>m</sup> 5 3" 280°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10			Remarks.
	" ' "		" "	"	"	"	"	"	
1251	-82 36 14.68	79.1	+4.330+ .996	-.87	+.012+ 2	.06	.53	.17	
1252	+11 13 43.57	68.9	+4.286- .476	-.05	-.009 0	.13	.49	.24	18 Orionis
1253	+58 0 34.34	66.5	+4.240- .738	-.16	-.027 0	.12	.43	.22	15 Camelopardi
1254	-36 5 29.50	81.5	+4.259- .304	-.02	+.001 0	.13	.50	.19	6 G Columbæ
1255	+62 32 48.07	93.8	+4.229- .799	-.20	-.021 0	.11	.94	.19	
1256	+42 41 0.86	88.8	+4.224- .612	-.10	-.019- 1	.12	.42	.15	
1257	-27 3 19.04	77.4	+4.196- .345	-.02	-.024 0	.13	.54	.22	28 G Leporis
1258	+33 16 1.55	72.7	+4.025- .564	-.08	-.176- 1	.10	.47	.20	16 Aurigæ *
1259	+40 0 36.91	68.0	+3.503- .610	-.09	-.656- 7	.05	.20	.10	
1260	+33 38 31.38	79.9	+4.089- .565	-.08	-.043 0	.10	.38	.15	
1261	-33 38 49.84	73.2	+4.089- .316	-.02	-.017 0	.13	.61	.26	10 G Columbæ
1262	-6 57 8.78	79.5	+4.097- .417	-.03	-.007 0	.05	.24	.09	$\beta$ 188. 12 <sup>m</sup> 4" 51°
1263	-13 37 34.71	79.4	+4.026- .394	-.03	-.050 0	.10	.46	.17	
1264	+78 12 30.38	71.1	+3.995- 1.337	-.65	-.078- 1	.09	.38	.17	
1265	+40 58 59.60	90.4	+3.999- .603	-.08	-.064 0	.11	.67	.17	
1266	+21 59 34.95	60.6	+3.970- .516	-.06	-.089 0	.08	.36	.19	109 Tauri <i>n</i>
1267	+20 1 47.28	62.1	+4.025- .508	-.06	-.029 0	.09	.39	.21	$\Sigma$ 680. 10 <sup>m</sup> 9" 202°
1268	+33 51 12.65	77.3	+4.030- .566	-.07	-.016 0	.11	.34	.16	19 Aurigæ
1269	-67 17 52.15	80.4	+4.059+ .007	-.05	+.048 0	.10	.50	.18	
1270	-34 59 34.98	79.8	+3.661- .311	-.02	-.346- 1	.08	.45	.16	
1271	+2 29 31.44	53.9	+3.942- .448	-.04	-.057 0	.14	.49	.31	21 Orionis
1272	+77 53 7.32	76.3	+3.981- 1.314	-.61	-.013- 1	.08	.35	.14	
1273	+27 51 20.89	76.9	+3.906- .539	-.07	-.030 0	.09	.51	.19	
1274	+41 42 17.17	69.4	+3.897- .608	-.08	-.037 0	.10	.33	.17	
1275	+29 28 6.18	77.9	+3.925- .547	-.07	+.001 0	.13	.57	.22	
1276	+57 26 49.99	68.7	+3.859- .736	-.14	-.061 0	.09	.27	.14	16 Camelopardi
1277	-13 16 47.58	65.5	+3.917- .397	-.03	+.003 0	.08	.31	.16	
1278	-12 25 5.46	74.8	+3.888- .400	-.03	+.007 0	.09	.42	.18	
1279	-27 28 17.89	83.0	+3.862- .343	-.02	-.014 0	.10	.45	.16	12 G Columbæ
1280	+40 55 51.19	90.4	+3.843- .604	-.08	+.002 0	.10	.61	.16	
1281	-21 20 25.06	95.0	+3.824- .368	-.02	+.014 0	.13	1.01	.20	38 G Leporis *
1282	+8 19 46.11	84.8	+3.801- .469	-.04	.000 0	.12	.51	.18	
1283	-0 30 56.49	80.0	+3.792- .439	-.03	+.003 0	.08	.39	.14	
1284	-0 28 52.13	73.2	+3.766- .440	-.03	-.003 0	.08	.32	.14	22 Orionis <i>o</i>
1285	-34 47 56.88	72.1	+3.755- .311	-.02	-.006 0	.14	.65	.28	13 G Columbæ
1286	+3 28 25.08	72.5	+3.755- .453	-.04	+.002 0	.09	.36	.16	
1287	-50 42 48.66	81.0	+3.963- .212	-.02	+.216 0	.11	.58	.20	
1288	+28 50 29.20	76.3	+3.705- .546	-.06	-.030 0	.11	.34	.16	22 Aurigæ
1289	+3 26 53.18	56.8	+3.683- .453	-.04	-.007 0	.08	.34	.20	23 Orionis <i>m</i> *
1290	-24 52 12.34	75.1	+3.665- .354	-.02	-.017 0	.12	.52	.22	41 G Leporis *
1291	+16 36 17.22	79.2	+3.637- .498	-.04	-.029 0	.12	.36	.16	110 Tauri
1292	+37 17 30.42	73.1	+3.639- .585	-.07	-.027 0	.10	.39	.18	$\beta$ 888. 12 <sup>m</sup> 9" 167°
1293	+31 2 59.99	68.4	+3.627- .555	-.06	-.009 0	.12	.51	.24	
1294	+17 17 25.98	67.7	+3.593- .506	-.05	-.010- 2	.07	.29	.14	111 Tauri
1295	-0 15 13.92	98.4	+3.601- .441	-.03	-.001 0	.11	.99	.16	
1296	-38 35 7.40	92.6	+3.621- .292	-.02	+.019 0	.15	1.11	.24	
1297	-14 1 16.19	72.3	+3.578- .395	-.03	+.004 0	.11	.47	.21	8 Leporis
1298	-51 40 20.81	87.5	+3.588- .205	-.02	+.023 0	.12	.65	.19	
1299	-7 53 59.55	75.4	+3.518- .416	-.03	-.038 0	.10	.43	.18	29 Orionis <i>e</i>
1300	-0 59 14.31	77.0	+3.658- .439	-.03	+.125 0	.09	.39	.16	27 Orionis <i>p</i>

1289  $\Sigma$  696. 7<sup>m</sup> 2 32" 28°.1290 h 3752. 7<sup>m</sup> 4 3" 3 105°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m					s	$\alpha$ Ep.	100 $\mu$
1301	$\eta$ Orionis <i>m</i>	3.4	5	19	26.941	72.4	+3.0156+.0039	-.004	+ .0004 0	.05	.27	.12
1302	Br 763	4.9	19	33.344		70.8	+3.1119+.0042	-.004	-.0007 0	.16	.69	.32
1303	$\gamma$ Orionis	1.6	19	46.034		77.4	+3.2162+.0046	-.006	-.0005 0	.03	.16	.06
1304	$\beta$ Tauri	1.6	19	58.202		65.7	+3.7900+.0076	-.016	+ .0024- 2	.02	.11	.06
1305	Paris 6246	5.9	20	1.313		95.3	+2.6687+.0031	-.002	+ .0004 0	.12	1.11	.21
1306	L 1834	5.8	20	5.963		87.8	+1.9762+.0033	-.001	-.0006 0	.15	.82	.24
1307	Br 760	6.5	20	18.937		78.0	+3.4648+.0058	-.010	-.0003 0	.12	.36	.17
1308	L 1853	6.5	20	31.580		77.0	+1.1025+.0072	-.004	-.0009+ 1	.14	.69	.27
1309	Br 745	5.9	20	43.426		83.8	+5.6558+.0298	-.110	+ .0008 0	.06	.42	.12
1310	Pulk <sub>ss</sub> 844	5.9	20	44.237		93.2	+3.8364+.0081	-.017	.0000 0	.12	.69	.17
1311	$\phi$ Aurigæ	5.4	21	1.092		76.1	+3.9743+.0090	-.020	+ .0004 0	.09	.33	.14
1312	Br 772 <sup>1</sup>	7.7	21	17.261		85.5	+3.1378+.0042	-.005	-.0001 0	.14	.46	.18
1313	Br 767	5.6	21	20.033		68.5	+3.4979+.0059	-.010	+ .0006 0	.11	.62	.28
1314	$\psi$ Orionis	4.7	21	35.832		62.0	+3.1413+.0042	-.005	-.0003 0	.10	.33	.19
1315	Br 768	4.9	21	37.707		67.3	+3.6016+.0064	-.012	+ .0008 0	.09	.38	.18
1316	Lal 10254	6.0	21	39.822		95.4	+2.5987+.0030	-.001	+ .0003 0	.14	.96	.20
1317	L 1850	6.1	21	56.890		87.4	+1.7840+.0037	-.002	-.0014 0	.13	.72	.21
1318	Br 771	5.7	22	0.821		76.7	+3.4457+.0055	-.009	+ .0006 0	.11	.32	.15
1319	Pi 102	6.8	22	25.284		72.5	+2.7938+.0031	-.003	+ .0014 0	.14	.64	.28
1320	Br 775 <i>n.f.</i>	6.0	23	7.197		58.6	+3.6909+.0067	-.014	+ .0015 0	.12	.34	.21
1321	L 1849	7.4	23	23.665		81.1	+2.4103+.0028	-.001	+ .0006 0	.12	.68	.23
1322	L 1862	6.1	23	52.754		88.4	+1.9229+.0035	-.001	-.0009+ 1	.12	.78	.21
1323	$\beta$ Leporis	2.7	23	57.655		67.4	+2.5703+.0027	-.001	+ .0004- 1	.06	.26	.13
1324	Br 759	6.6	23	59.875		74.4	+5.1337+.0190	-.072	+ .0170- 4	.07	.30	.13
1325	L 1855	7.2	24	7.363		87.9	+2.2289+.0028	-.001	-.0025 0	.13	1.04	.26
1326	Br 778	8.2	24	35.848		66.7	+3.0555+.0037	-.004	+ .0035 0	.15	.57	.29
1327	Br 779	5.1	24	39.285		66.0	+3.0460+.0037	-.004	+ .0007 0	.11	.38	.20
1328	Pulk <sub>ss</sub> 861	5.9	24	43.420		95.7	+3.1119+.0039	-.004	+ .0001 0	.14	.81	.18
1329	L 1868	5.8	24	48.565		88.3	+2.0657+.0032	-.001	.0000+ 1	.16	.72	.23
1330	$\lambda$ Doradus	5.1	24	51.603		84.6	+0.8724+.0082	-.005	-.0021+ 1	.18	.84	.28
1331	Br 780 <i>m</i>	4.3	25	25.975		58.7	+3.2090+.0042	-.006	+ .0008 0	.11	.39	.23
1332	Br 784 <i>m</i>	5.7	25	59.695		77.9	+3.1470+.0040	-.005	+ .0004 0	.11	.34	.16
1333	$\chi$ Aurigæ	4.9	26	13.098		74.1	+3.9027+.0076	-.019	+ .0005 0	.08	.28	.13
1334	Groomb 966	6.5	26	20.972		73.8	+7.9978+.0705	-.442	-.0009+ 2	.03	.24	.09
1335	Br 783	4.8	26	20.978		69.1	+3.5159+.0054	-.010	+ .0007 0	.09	.38	.18
1336	Dpt 588	6.4	26	26.276		89.8	+3.4760+.0051	-.010	-.0002 0	.14	.56	.18
1337	Bruss 2152	6.8	26	26.734		93.8	+3.4757+.0052	-.010	-.0004 0	.14	.81	.19
1338	Br 791	5.7	26	50.788		67.5	+2.5663+.0028	-.001	.0000 0	.12	.40	.21
1339	$\delta$ Orionis	2.2	26	53.853		68.8	+3.0638+.0036	-.004	+ .0001 0	.03	.14	.06
1340	$\nu$ Orionis	4.8	27	5.596		73.1	+2.9013+.0033	-.003	+ .0002 0	.12	.46	.21
1341	L 1888	5.7	27	24.445		81.1	+1.6458+.0035	-.002	-.0004- 2	.14	.70	.25
1342	Br 770	6.2	27	34.302		71.6	+5.7979+.0261	-.124	+ .0020- 2	.11	.46	.21
1343	Pulk <sub>ss</sub> 872	5.4	27	37.793		91.7	+3.0338+.0035	-.004	-.0001 0	.11	.81	.19
1344	$\epsilon$ Columbæ	3.9	27	39.760		80.2	+2.1292+.0028	-.001	+ .0022 0	.10	.48	.17
1345	Br 786	5.8	27	39.968		66.4	+3.5150+.0053	-.010	+ .0007 0	.12	.39	.21
1346	Br 788	5.7	28	13.264		69.3	+3.4080+.0048	-.009	-.0001 0	.13	.46	.23
1347	$\alpha$ Leporis	2.6	28	19.179		68.5	+2.6451+.0029	-.002	+ .0001 0	.03	.20	.09
1348	Pi 117	6.0	28	22.724		77.6	+4.9196+.0155	-.059	+ .0008 0	.12	.52	.21
1349	Grw <sub>60</sub> 412	5.6	28	26.902		91.8	+3.0440+.0036	-.004	.0000 0	.13	.70	.18
1350	Groomb 987	6.3	5	28	42.821	86.8	+4.5273+.0116	-.041	+ .0025 0	.09	.52	.15

1313  $\Omega$  107.  $11^m 10'' 307^\circ$ .1320  $\Sigma$  716.  $6^m 8 5'' 201^\circ$ .1314 Knott.  $9^m 3'' 324^\circ$ .1327  $\Sigma$  725.  $11^m 12'' 88^\circ$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. 5 Ep. 100 $\mu'$ 5 10	Remarks.
1301	- 2 29 20.86	76.8	+3.530- .434	-.03	+ .001 0	.06 .30 .11	Dawes 3 <sup>M</sup> 7-4 <sup>M</sup> 9 1 <sup>M</sup> 1 80°
1302	+ 1 45 16.93	64.1	+3.501- .448	-.03	-.018 0	.15 .55 .29	25 Orionis ( $\psi^1$ )
1303	+ 6 15 32.76	74.8	+3.482- .463	-.04	-.019 0	.04 .17 .07	( $\gamma$ Aurigæ)
1304	+28 31 22.91	64.3	+3.307- .546	-.06	-.177 0	.02 .11 .06	
1305	-17 4 0.11	91.0	+3.463- .385	-.03	-.016 0	.13 .08 .23	
1306	-39 46 16.13	80.1	+3.476- .285	-.02	+ .003 0	.12 .55 .20	15 G Columbæ
1307	+16 36 40.60	78.8	+3.446- .499	-.04	-.008 0	.11 .38 .16	113 Tauri
1308	-56 13 41.44	77.4	+3.476- .160	-.02	+ .040 0	.12 .59 .23	17 G Pictoris B. A. C. has $\kappa$
1309	+62 59 1.53	78.8	+3.418- .814	-.16	-.001 0	.06 .24 .09	17 Camelopardi
1310	+30 7 17.29	89.4	+3.399- .552	-.06	-.019 0	.12 .59 .17	
1311	+34 23 26.34	68.8	+3.337- .573	-.06	-.056 0	.08 .28 .14	
1312	+ 2 50 54.93	72.8	+3.371- .452	-.04	+ .001 0	.11 .35 .17	$\Sigma$ 712. 9 <sup>M</sup> 3" 54°
1313	+17 52 35.24	66.0	+3.352- .504	-.05	-.014 0	.09 .46 .22	115 Tauri *
1314	+ 3 0 32.10	54.4	+3.331- .453	-.04	-.013 0	.10 .31 .20	30 Orionis ( $\psi^2$ ) *
1315	+21 51 5.34	60.3	+3.328- .519	-.05	-.013 0	.07 .27 .15	114 Tauri o
1316	-19 46 56.63	96.5	+3.308- .375	-.02	-.030 0	.17 1.19 .23	h 3759. 9 <sup>M</sup> 27" 318°
1317	-44 18 51.95	81.4	+3.308- .258	-.02	-.005 0	.11 .49 .18	18 G Pictoris
1318	+15 47 22.66	77.6	+3.278- .497	-.04	-.030 0	.11 .36 .16	116 Tauri
1319	-11 59 6.18	74.8	+3.218- .403	-.03	-.054 0	.11 .56 .23	
1320	+25 4 10.17	58.7	+3.178- .533	-.05	-.034 0	.09 .32 .19	118 Tauri *
1321	-26 40 4.23	79.4	+3.155- .348	-.02	-.033 0	.12 .67 .24	50 G Leporis (Columba)
1322	-41 1 47.72	85.2	+3.234- .278	-.02	+ .088 0	.11 .59 .18	18 G Columbæ
1323	-20 50 20.93	72.0	+3.045- .372	-.02	-.094 0	.07 .25 .12	$\beta$ 320. 10 <sup>M</sup> 3" 290°
1324	+57 9 1.79	66.6	+2.922- .743	-.12	-.214- 2	.07 .22 .12	18 Camelopardi
1325	-32 29 58.26	79.6	+3.074- .322	-.02	-.051 0	.13 .77 .27	19 G Columbæ
1326	- 0 52 50.21	72.8	+3.034- .442	-.03	-.050 0	.13 .55 .24	
1327	- 1 10 15.78	67.6	+3.033- .440	-.03	-.026 0	.08 .31 .15	31 Orionis *
1328	+ 1 42 36.39	90.8	+3.060- .450	-.03	-.013 0	.13 .61 .18	
1329	-37 18 49.67	79.8	+3.133- .299	-.02	+ .067 0	.13 .50 .20	20 G Columbæ
1330	-58 59 48.32	81.1	+3.086- .127	-.02	+ .024 0	.14 .64 .23	
1331	+ 5 52 18.26	56.8	+2.976- .464	-.04	-.036 0	.08 .33 .20	32 Orionis A *
1332	+ 3 12 57.66	68.7	+2.957- .455	-.03	-.007 0	.09 .28 .15	33 Orionis $\pi^1$ *
1333	+32 7 4.87	71.3	+2.928- .563	-.05	-.016 0	.07 .28 .13	
1334	+74 58 39.93	76.1	+2.952- 1.155	-.32	+ .019 0	.04 .23 .09	
1335	+18 31 11.43	66.2	+2.924- .508	-.04	-.009 0	.07 .31 .15	119 Tauri
1336	+16 59 2.93	75.3	+2.916- .502	-.04	-.009 0	.11 .35 .16	{ $\Sigma$ 730. 10" 140°
1337	+16 58 55.24	93.2	+2.932- .502	-.04	+ .007 0	.13 .80 .19	
1338	-20 56 15.49	75.6	+2.849- .371	-.02	-.041 0	.12 .46 .20	10 Leporis
1339	- 0 22 23.36	67.1	+2.882- .443	-.02	-.003 0	.03 .14 .06	W. H. 7 <sup>M</sup> 53" 0°
1340	- 7 22 31.30	69.4	+2.856- .420	-.02	-.012 0	.09 .34 .17	
1341	-47 8 59.14	75.8	+2.688- .238	-.02	-.153 0	.11 .51 .21	20 G Pictoris
1342	+64 5 22.99	65.4	+2.759- .838	-.13	-.068 0	.08 .28 .15	19 Camelopardi
1343	- 1 39 51.20	85.8	+2.794- .439	-.02	-.028 0	.11 .67 .18	$\beta$ 2048. 10 <sup>M</sup> 2" 3 353°
1344	-35 32 37.79	72.6	+2.770- .309	-.02	-.049 0	.09 .43 .19	
1345	+18 28 8.02	63.2	+2.813- .509	-.04	-.006 0	.11 .42 .23	120 Tauri
1346	+14 14 8.05	65.6	+2.765- .493	-.03	-.006 0	.11 .40 .21	35 Orionis
1347	-17 53 37.76	66.4	+2.765- .323	-.02	+ .003 0	.04 .19 .09	h 3766. 10 <sup>M</sup> 35" 156°
1348	+54 21 43.80	68.2	+2.756- .712	-.09	-.001 0	.14 .44 .23	
1349	-1 13 35.47	86.6	+2.744- .441	-.02	-.007 0	.12 .59 .18	
1350	+47 38 57.11	81.7	+2.713- .656	-.07	-.015 0	.09 .37 .14	

1331  $\Sigma$  728. 4<sup>M</sup> 6-7<sup>M</sup> 1", or less.1332  $\Sigma$  729. 7<sup>M</sup> 3 2" 27°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			<sup>m</sup>	<sup>h</sup>	<sup>m</sup>					$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1351	L 1896	6.0	5	28	45.554	84.6	+1.7032+.0038	-.002	+ .0019 0	.18	.75	.27
1352	Br 793	5.5	29	0.990		82.4	+3.1560+.0038	-.005	-.0019 0	.13	.34	.16
1353	Br 792	4.5	29	19.808		83.5	+3.2920+.0042	-.007	-.0001 0	.06	.33	.11
1354	Br 790	5.5	29	20.621		70.8	+3.6618+.0057	-.013	+ .0005 0	.12	.44	.21
1355	L 1895	5.5	29	29.338		78.4	+2.0185+.0030	-.001	+ .0030 0	.14	.70	.26
1356	L 1890	5.9	29	32.706		82.4	+2.1448+.0028	-.001	+ .0072 0	.14	.78	.26
1357	$\lambda^1$ Orionis	3.4	29	37.799		68.2	+3.3029+.0042	-.007	+ .0001 0	.06	.27	.13
1358	L 1892	7.3	29	39.438		84.5	+2.1657+.0028	-.001	-.0005 0	.15	.78	.25
1359	Pulk <sub>ss</sub> 506	5.8	29	42.009		96.8	+3.3118+.0043	-.007	+ .0017 0	.14	1.05	.20
1360	Groomb 944	6.5	29	54.49		76.5	+18.694+.512		+ .016+ 6	.05	.26	.10
1361	Arm 1238	5.8	30	7.725		90.4	+2.9314+.0032	-.003	+ .0001 0	.12	.72	.18
1362	Br 801	4.8	30	9.376		84.8	+2.9317+.0032	-.003	+ .0002 0	.10	.56	.17
1363	$\theta^1$ Orionis	4.9	30	21.745		71.8	+2.9460+.0032	-.004	+ .0002 0	.06	.32	.14
1364	Br 803	4.8	30	27.136		72.2	+2.9587+.0033	-.004	+ .0001 0	.10	.40	.19
1365	$\theta^2$ Orionis	5.2	30	28.245		76.6	+2.9460+.0032	-.004	+ .0009 0	.06	.36	.14
1366	$\iota$ Orionis	2.9	30	32.473		75.4	+2.9338+.0032	-.004	+ .0002 0	.05	.28	.11
1367	Br 785	7.2	30	38.656		66.6	+5.0647+.0152	-.069	+ .0046- 3	.13	.56	.27
1368	Br 807	5.6	30	43.525		75.8	+2.9588+.0033	-.004	+ .0005 0	.13	.48	.21
1369	Pi 145 <i>m</i>	5.9	30	54.115		84.5	+3.7448+.0059	-.016	+ .0010 0	.12	.45	.16
1370	$\epsilon$ Orionis	1.6	31	8.349		69.4	+3.0430+.0034	-.004	.0000 0	.03	.15	.07
1371	Br 782	7.0	31	12.760		72.9	+5.5552+.0208	-.104	+ .0006 0	.14	.52	.24
1372	Br 798	5.8	31	15.519		67.1	+3.4810+.0047	-.010	+ .0038 0	.14	.50	.26
1373	Br 805	4.3	31	24.724		67.0	+3.2942+.0037	-.007	+ .0062- 2	.11	.39	.20
1374	L 1902	5.9	31	34.474		78.3	+2.2065+.0029	-.001	+ .0003+ 1	.18	1.00	.36
1375	$\zeta$ Tauri	3.0	31	40.073		75.3	+3.5838+.0051	-.012	+ .0002 0	.03	.18	.07
1376	Dpt 611	5.8	31	42.584		96.0	+2.9297+.0031	-.003	-.0003 0	.14	.81	.18
1377	L 1923	6.7	31	45.331		82.7	+1.1855+.0055	-.004	+ .0051 0	.18	.72	.27
1378	Br 799 <i>m</i>	5.7	32	12.776		64.7	+3.8507+.0063	-.018	-.0010 0	.13	.50	.26
1379	Pi 169	6.4	32	15.590		84.2	+2.3450+.0027	-.001	+ .0011 0	.14	.64	.22
1380	Radcl 1516	5.9	32	25.055		83.2	+6.0039+.0250	-.145	+ .0008- 1	.08	.64	.19
1381	L 1949	5.4	32	26.943		79.5	+0.3219+.0103	-.004	+ .0057- 1	.16	.69	.27
1382	Pulk <sub>ss</sub> 518	6.0	32	33.880		99.6	+2.9313+.0031	-.004	-.0016 0	.15	1.17	.19
1383	Pulk <sub>ss</sub> 886	6.0	32	36.212		96.8	+3.2475+.0038	-.006	+ .0009 0	.14	.96	.19
1384	$\beta$ Doradus	3.8	32	45.415		77.9	+0.5161+.0091	-.004	-.0011 0	.12	.57	.22
1385	Pi 146	6.7	33	13.512		77.1	+4.8636+.0109	-.039	+ .0013- 9	.11	.52	.21
1386	Pi 177	6.2	33	19.466		82.4	+2.3691+.0026	-.001	+ .0005 0	.14	.64	.22
1387	L 1930	6.3	33	19.709		80.2	+1.6259+.0037	-.002	-.0041 0	.16	.99	.34
1388	Br 810	5.2	33	32.355		67.3	+3.7176+.0054	-.015	+ .0023 0	.11	.38	.19
1389	$\sigma$ Orionis <i>m</i>	3.8	33	43.537		71.8	+3.0107+.0032	-.004	.0000 0	.05	.22	.10
1390	Pi 183	5.4	33	50.385		88.0	+2.3409+.0027	-.001	-.0030 0	.15	.82	.24
1391	$\omega$ Orionis	4.6	33	54.355		65.2	+3.1671+.0035	-.006	+ .0004 0	.11	.34	.19
1392	Br 816	5.0	34	2.763		65.3	+2.9019+.0030	-.003	-.0011 0	.12	.42	.22
1393	Br 797	6.4	34	32.743		72.2	+5.0842+.0141	-.071	+ .0029+ 1	.13	.50	.23
1394	Br 795	6.5	34	56.692		71.7	+5.5120+.0177	-.101	+ .0003 0	.11	.46	.21
1395	L 1941	6.1	35	30.833		86.6	+1.9257+.0031	-.001	-.0011 0	.15	.78	.24
1396	Br 817	5.0	35	30.937		68.9	+3.4664+.0042	-.010	+ .0009 0	.11	.40	.20
1397	Br 808	7.1	35	42.465		75.3	+4.9589+.0124	-.063	+ .0015 0	.12	.51	.21
1398	$\zeta$ Orionis	1.7	35	42.779		66.1	+3.0265+.0032	-.004	+ .0005 0	.04	.16	.08
1399	Pulk <sub>ss</sub> 896	5.1	35	46.091		92.1	+3.0441+.0032	-.005	-.0008 0	.11	.70	.17
1400	$\gamma$ Mensæ	5.2	5	35	50.438	87.7	-2.4001+.0459	+ .088	+ .0263+ 34	.13	.87	.23

1363  $\Sigma$  748.  $7^m 2 13'' 311^\circ$ ;  $8^m 1 17'' 342^\circ$ ;  $6^m 6 13'' 61^\circ$ ; two fainter.1364 Dawes.  $8^m 6 17'' 6 217^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10	Remarks.
	" ' "		" "		"	" " "	
1351	-45 59 54.81	77.5	+2.758-.248	-.02	+ .034 0	.14 .55 .23	21 G Pictoris
1352	+ 3 41 54.60	78.7	+2.681-.457	-.03	-.021 0	.12 .33 .16	38 Orionis $n^2$
1353	+ 9 25 18.73	78.1	+2.667-.477	-.03	-.008 0	.06 .32 .12	37 Orionis $\phi^1$
1354	+23 58 22.84	68.1	+2.643-.530	-.04	-.031 0	.10 .42 .20	121 Tauri
1355	-38 34 58.84	76.9	+2.656-.293	-.02	-.005 0	.12 .59 .23	24 G Columbæ
1356	-35 12 29.38	72.6	+2.611-.312	-.02	-.045- 1	.13 .63 .27	25 G Columbæ
1357	+ 9 52 1.74	68.4	+2.638-.478	-.03	-.011 0	.06 .27 .13	$\Sigma$ 738. $6^m 0 4'' 45^\circ$
1358	-34 22 23.37	73.9	+2.661-.314	-.02	+ .015 0	.15 .63 .27	26 G Columbæ
1359	+10 10 24.66	91.1	+2.637-.480	-.03	-.006 0	.12 .77 .19	O $\Sigma$ III. $10^m 3'' 352^\circ$
1360	+85 8 49.75	77.1	+2.628-2.706		+ .004- 2	.06 .30 .12	
1361	- 6 4 33.02	85.8	+2.609-.425	-.02	+ .004 0	.10 .57 .17	} $\Sigma$ 747. $36'' 223^\circ$
1362	- 6 4 6.68	82.2	+2.609-.425	-.02	+ .006 0	.09 .52 .17	
1363	- 5 27 20.37	71.9	+2.589-.427	-.02	+ .004 0	.07 .30 .13	In "Trapezium."*
1364	- 4 54 14.52	72.4	+2.575-.429	-.02	-.002 0	.08 .33 .15	42 Orionis $c^1$ *
1365	- 5 28 54.35	80.8	+2.591-.427	-.02	+ .015 0	.08 .41 .14	$\Sigma$ App. $6^m 5 52'' 93^\circ$
1366	- 5 58 31.91	74.4	+2.566-.425	-.02	-.004 0	.06 .25 .10	$\Sigma$ 752. $7^m 7 11'' 141^\circ$
1367	+56 18 10.06	59.4	+2.427-.734	-.09	-.134- 1	.11 .36 .21	22 Camelopardi
1368	- 4 55 16.91	76.2	+2.555-.429	-.02	+ .001 0	.10 .42 .17	45 Orionis $c^2$
1369	+26 51 42.93	79.6	+2.508-.543	-.03	-.030 0	.11 .42 .17	$\Sigma$ 749. $6^m 7-6^m 7 0'' 9 352^\circ$ slow
1370	- 1 15 56.76	69.2	+2.516-.441	-.02	-.002 0	.03 .15 .07	
1371	+61 53 24.67	55.3	+2.526-.805	-.11	+ .015 0	.12 .31 .21	21 Camelopardi
1372	+16 58 42.88	62.6	+2.473-.505	-.03	-.035- 1	.12 .47 .25	122 Tauri
1373	+ 9 14 11.00	63.3	+2.187-.478	-.03	-.307- 1	.08 .30 .16	40 Orionis $\phi^2$
1374	-33 8 51.28	73.9	+2.575-.320	-.01	+ .095 0	.17 1.10 .43	28 G Columbæ
1375	+21 4 53.60	73.2	+2.444-.519	-.03	-.028 0	.04 .18 .08	
1376	- 6 7 39.12	85.8	+2.444-.425	-.02	-.024 0	.12 .49 .17	$\Sigma$ 754. $10^m 5'' 288^\circ$
1377	-54 58 7.50	76.8	+2.468-.173	-.01	+ .004- 1	.14 .55 .23	23 G Pictoris
1378	+30 25 59.16	54.6	+2.416-.558	-.04	-.009 0	.09 .35 .21	26 Aurigæ *
1379	-28 46 13.36	81.5	+2.429-.341	-.01	+ .008 0	.12 .49 .18	30 G Columbæ
1380	+65 38 36.59	77.3	+2.384-.870	-.13	-.023 0	.06 .42 .15	
1381	-64 17 37.13	82.4	+2.376-.048	-.03	-.028- 1	.14 .69 .24	28 G Doradus
1382	- 5 59 56.37	97.4	+2.391-.425	-.02	-.003 0	.14 .96 .18	
1383	+ 7 28 54.88	92.3	+2.368-.471	-.03	-.023 0	.13 .73 .18	
1384	-62 33 18.26	78.5	+2.391-.076	-.02	+ .014 0	.10 .51 .19	
1385	+53 26 26.12	71.2	+1.827-.705	-.07	-.510 0	.10 .41 .19	
1386	-27 55 46.65	77.2	+2.269-.344	-.01	-.059 0	.13 .55 .22	34 G Columbæ $v^1$
1387	-47 22 30.03	76.9	+2.301-.236	-.01	-.027+ 1	.14 .69 .27	25 G Pictoris
1388	+25 50 27.32	55.4	+2.278-.539	-.03	-.031 0	.09 .30 .19	125 Tauri
1389	- 2 39 27.95	74.7	+2.294-.437	-.02	+ .001 0	.05 .24 .10	$\beta$ 1032. $4^m 0-5^m 5 0'' 2 329^\circ$ *
1390	-28 44 58.69	77.6	+2.331-.340	-.01	+ .048 0	.13 .57 .23	34 G Columbæ $v^2$
1391	+ 4 3 52.45	67.6	+2.280-.460	-.03	+ .002 0	.11 .38 .20	
1392	- 7 16 6.68	60.7	+2.218-.421	-.02	-.047 0	.10 .34 .20	49 Orionis $d$
1393	+56 31 45.23	61.6	+2.250-.738	-.08	+ .028 0	.11 .30 .18	24 Camelopardi
1394	+61 25 36.58	66.6	+2.187-.800	-.09	.000 0	.10 .34 .18	23 Camelopardi
1395	-40 45 47.66	81.2	+2.154-.280	-.01	+ .016 0	.13 .58 .21	37 G Columbæ
1396	+16 28 55.28	67.7	+2.110-.503	-.02	-.028 0	.10 .40 .20	126 Tauri
1397	+54 48 58.79	66.8	+2.103-.720	-.06	-.018 0	.11 .39 .20	25 Camelopardi
1398	- 1 59 43.72	67.8	+2.113-.440	-.01	-.007 0	.04 .17 .08	$\Sigma$ 774. $5^m 4 2'' 6 156^\circ$
1399	- 1 10 53.20	89.0	+2.108-.442	-.01	-.008 0	.09 .57 .15	
1400	-76 24 44.18	80.0	+2.410+.343	-.11	+ .301- 4	.10 .52 .18	

1378  $\beta$  1240.  $6^m 3-6^m 7 < 0'' 3$ , very slow;  $\Sigma$  753.  $8^m 0 12'' 268^\circ$ .1389  $\Sigma$  762.  $10^m 11'' 237^\circ$ ;  $7^m 5 13'' 83^\circ$ ;  $6^m 3 41'' 61^\circ$ ; princ. star =  $\beta$  1032, slow binary.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1401	$\alpha$ Columbæ	2.6	5	36	1.685	71.4	+2.1718+.0027	-.001	+ .0003 0	.04	.21	.09
1402	L 1936	5.7	36	7.874		84.3	+2.2162+.0026	-.001	-.0034 0	.16	.82	.27
1403	L 1985	6.7	36	54.818		84.5	-0.0087+.0116	-.002	-.0059+ 1	.14	.80	.25
1404	Br 820	7.0	37	0.682		83.0	+3.5281+.0043	-.011	-.0003 0	.13	.34	.16
1405	L 2016	5.8	37	14.172		90.8	-1.5089+.0265	+ .036	-.0036+ 6	.16	1.06	.26
1406	Br 823	7.1	37	17.521		81.6	+3.4046+.0040	-.009	-.0025 0	.12	.44	.17
1407	Br 822	5.3	37	18.325		78.3	+3.1019+.0032	-.005	-.0035 0	.11	.28	.14
1408	L 1955	6.7	37	47.401		84.6	+2.1932+.0027	-.001	-.0004 0	.14	.93	.27
1409	Br 828	6.1	38	1.540		73.8	+2.5239+.0026	-.002	+ .0005 0	.12	.42	.20
1410	Br 811	6.1	38	4.658		64.4	+5.0536+.0117	-.069	+ .0034- 1	.13	.48	.25
1411	$\alpha$ Aurigæ	5.7	38	9.172		82.0	+4.6453+.0092	-.047	-.0003 0	.05	.30	.10
1412	Br 812	7.1	38	22.825		65.0	+5.1163+.0122	-.073	+ .0043 0	.13	.54	.28
1413	L 1962	6.5	38	22.917		83.8	+2.2857+.0026	-.001	-.0003 0	.12	.70	.22
1414	L 1964	5.5	38	40.050		84.4	+2.1502+.0028	-.001	-.0002 0	.15	.87	.27
1415	Br 824 <i>m</i>	7.5	38	48.258		68.4	+3.4298+.0038	-.009	+ .0004 0	.10	.44	.21
1416	Paris 6680	6.0	38	58.972		95.0	+2.6255+.0025	-.002	+ .0011 0	.15	.98	.21
1417	Br 826	7.1	39	7.549		74.3	+3.4557+.0038	-.010	+ .0007 0	.10	.32	.15
1418	L 1973	6.6	40	12.008		85.7	+1.9797+.0028	-.001	+ .0030 0	.11	.54	.17
1419	Br 836	6.7	40	16.429		81.4	+2.5006+.0020	-.002	-.0214- 2	.12	.54	.20
1420	$\gamma$ Leporis	3.7	40	17.671		76.7	+2.5012+.0020	-.002	-.0201- 3	.06	.24	.10
1421	L 1981	6.6	40	50.841		86.6	+1.7002+.0035	-.002	+ .0011+ 1	.12	.64	.20
1422	Br 830	6.1	41	0.407		60.6	+3.4495+.0036	-.009	+ .0007 0	.12	.39	.23
1423	Br 833	5.9	41	31.398		68.4	+3.4168+.0035	-.009	+ .0012 0	.11	.48	.23
1424	Br 832	5.7	41	36.331		81.0	+3.4975+.0037	-.011	+ .0002 0	.06	.33	.11
1425	Pi 214	7.2	41	47.580		71.9	+3.6839+.0041	-.014	+ .0002 0	.12	.48	.22
1426	Br 827	7.2	41	54.454		75.2	+4.1703+.0057	-.027	-.0003 0	.11	.40	.18
1427	Br 821	6.7	42	2.228		66.1	+5.1156+.0103	-.073	+ .0005 0	.12	.46	.24
1428	Br 834	5.4	42	2.613		76.0	+3.4024+.0034	-.009	+ .0012 0	.11	.33	.16
1429	$\tau$ Aurigæ	4.6	42	14.734		75.1	+4.1549+.0056	-.027	-.0021 0	.09	.27	.13
1430	$\mu$ Columbæ	5.4	42	16.913		79.2	+2.2284+.0025	-.001	-.0001 0	.10	.44	.17
1431	Pi 222 <i>m</i>	6.1	42	24.175		81.0	+3.5803+.0038	-.012	+ .0009 0	.11	.64	.22
1432	$\zeta$ Leporis	3.6	42	25.441		76.5	+2.7176+.0025	-.002	-.0012 0	.05	.28	.11
1433	Br 841 <i>m</i>	5.4	42	37.831		76.0	+3.2227+.0030	-.006	+ .0004 0	.11	.34	.16
1434	Br 835	5.1	42	52.725		67.2	+3.6810+.0039	-.014	+ .0003 0	.10	.33	.17
1435	$\kappa$ Orionis	2.1	43	0.822		77.0	+2.8446+.0026	-.003	+ .0002 0	.03	.18	.07
1436	Pi 241	7.6	43	22.707		88.0	+2.3900+.0025	-.001	+ .0018 0	.14	.82	.23
1437	L 2003	5.2	43	41.029		77.1	+1.6582+.0032	-.002	-.0028 0	.15	.90	.33
1438	Br 842	5.0	43	55.878		67.6	+3.3699+.0032	-.008	-.0009 0	.14	.44	.23
1439	$\nu$ Aurigæ	5.1	44	13.183		72.6	+4.0902+.0048	-.025	+ .0030 0	.09	.39	.17
1440	L 2005	7.3	44	20.679		90.3	+1.8865+.0028	-.001	-.0010 0	.13	.68	.18
1441	Pi 239	6.0	44	32.090		83.6	+3.3040+.0030	-.007	+ .0004 0	.11	.48	.17
1442	$\nu$ Aurigæ	4.2	44	33.519		76.0	+4.1563+.0051	-.027	-.0004 0	.04	.22	.09
1443	$\delta$ Doradus	4.5	44	35.614		80.4	+0.1028+.0082	-.002	-.0062 0	.11	.54	.19
1444	Pi 236	5.8	44	39.966		77.8	+3.7788+.0040	-.016	-.0007 0	.16	.64	.26
1445	Br 845	5.7	44	47.544		75.4	+3.4125+.0032	-.009	+ .0008 0	.10	.33	.16
1446	$\beta$ Pictoris	3.9	44	54.985		81.6	+1.4202+.0039	-.003	+ .0007+ 2	.14	.68	.24
1447	Paris 6859	5.7	45	3.861		95.9	+2.7243+.0024	-.002	-.0028 0	.13	1.05	.20
1448	Br 846	6.9	45	6.967		70.1	+3.4154+.0031	-.009	+ .0003 0	.10	.40	.19
1449	$\pi$ Mensæ	5.8	45	7.665		80.6	-4.8448+.1052	+ .449	+ .0905+248	.08	.69	.22
1450	Br 847	6.9	5	45	10.587	69.5	+3.4064+.0032	-.009	+ .0011 0	.09	.39	.18

1415 OZ 115. 8<sup>m</sup> 0''8 121°.1427  $\beta$ . 10<sup>m</sup> 25'' 131°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3at	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" " "		" "	"	"	"	"	"	
1401	-34 7 38.54	69.3	+ 2.058-.316	-.01	-.035 0	.05	.27	.12	Innes. 12 <sup>m</sup> 11" 358°
1402	-32 40 54.52	72.0	+ 2.052-.322	-.01	-.032 0	.14	.58	.26	39 G Columbæ
1403	-66 36 59.48	82.8	+ 2.035+.001	-.03	+.019+ 1	.12	.61	.20	31 G Doradus
1404	+18 55 55.40	80.8	+ 2.002-.512	-.02	-.006 0	.12	.37	.16	127 Tauri
1405	-73 48 1.42	90.3	+ 2.059+.219	-.06	+.071 0	.13	.97	.23	26 G Mensæ
1406	+14 7 49.81	76.2	+ 1.967-.494	-.02	-.016 0	.10	.39	.17	Arm 1274
1407	+ 1 25 34.17	77.6	+ 1.964-.450	-.01	-.018 0	.10	.32	.14	51 Orionis b
1408	-33 26 59.27	73.3	+ 1.947-.319	-.01	+.007 0	.12	.57	.24	40 G Columbæ
1409	-22 25 20.10	80.0	+ 1.939-.367	-.01	+.020 0	.13	.53	.21	12 Leporis
1410	+56 4 27.30	56.2	+ 1.859-.735	-.06	-.056 0	.11	.31	.20	26 Camelopardi
1411	+49 46 57.36	76.8	+ 1.900-.675	-.05	-.008 0	.06	.29	.11	
1412	+56 52 56.87	63.4	+ 1.860-.744	-.06	-.028- 1	.12	.45	.24	28 Camelopardi
1413	-30 35 0.92	78.3	+ 1.896-.332	-.01	+.008 0	.11	.49	.19	41 G Columbæ
1414	-34 43 0.41	73.1	+ 1.905-.313	-.01	+.042 0	.15	.69	.30	42 G Columbæ
1415	+15 1 10.19	69.3	+ 1.828-.499	-.02	-.023 0	.08	.40	.18	Abn 128 *
1416	-18 36 10.54	93.5	+ 1.799-.382	-.01	-.037 0	.15	1.09	.24	
1417	+16 2 33.74	74.1	+ 1.809-.502	-.02	-.014 0	.10	.34	.16	128 Tauri
1418	-39 27 4.18	78.4	+ 1.724-.289	-.01	-.006 0	.11	.46	.18	43 G Columbæ
1419	-22 27 17.33	79.7	+ 1.371-.361	-.01	-.352+ 3	.12	.67	.24	}
1420	-22 28 51.45	76.2	+ 1.346-.361	-.01	-.376+ 3	.06	.25	.10	
1421	-45 52 43.05	84.6	+ 1.761-.248	-.01	+.088 0	.11	.54	.18	29 G Pictoris
1422	+15 47 0.02	56.5	+ 1.649-.502	-.02	-.010 0	.11	.37	.23	129 Tauri
1423	+14 27 4.81	70.9	+ 1.558-.497	-.02	-.056 0	.10	.46	.21	131 Tauri
1424	+17 41 29.91	77.4	+ 1.597-.509	-.02	-.010 0	.06	.32	.12	130 Tauri
1425	+24 39 0.38	66.8	+ 1.563-.536	-.02	-.028 0	.10	.39	.20	OZ. 7 <sup>m</sup> 94" 166°
1426	+39 29 55.61	70.2	+ 1.557-.607	-.03	-.024 0	.09	.33	.16	28 Aurigæ
1427	+56 53 9.00	59.7	+ 1.564-.744	-.05	-.006 0	.10	.34	.20	29 Camelopardi *
1428	+13 51 47.70	72.7	+ 1.556-.495	-.02	-.013 0	.11	.34	.17	133 Tauri
1429	+39 8 49.38	73.8	+ 1.526-.604	-.03	-.026 0	.07	.28	.12	
1430	-32 20 39.79	71.1	+ 1.522-.325	-.01	-.026 0	.10	.45	.20	
1431	+20 50 3.86	74.4	+ 1.516-.521	-.02	-.022 0	.09	.43	.18	*
1432	-14 51 32.91	76.7	+ 1.538-.395	-.01	+.002 0	.06	.30	.12	
1433	+ 6 25 7.90	68.7	+ 1.495-.469	-.02	-.023 0	.09	.29	.15	52 Orionis *
1434	+24 32 2.01	58.2	+ 1.460-.536	-.02	-.036 0	.08	.29	.17	132 Tauri
1435	- 9 42 18.48	71.8	+ 1.479-.414	-.01	-.005 0	.04	.21	.09	
1436	-27 10 10.22	87.6	+ 1.443-.348	-.01	-.010 0	.12	.64	.19	
1437	-46 38 2.09	72.8	+ 1.433-.241	-.01	+.007 0	.12	.63	.26	30 G Pictoris
1438	+12 37 10.58	69.8	+ 1.378-.490	-.02	-.026 0	.12	.45	.22	134 Tauri
1439	+37 16 36.78	67.1	+ 1.341-.596	-.02	-.038 0	.08	.32	.16	
1440	-41 37 27.15	85.3	+ 1.335-.275	-.01	-.033 0	.11	.50	.17	
1441	+ 9 50 25.85	78.5	+ 1.339-.481	-.02	-.013 0	.10	.43	.17	
1442	+39 7 9.06	74.6	+ 1.356-.605	-.02	+.006 0	.05	.27	.11	W. H. 10 <sup>m</sup> 55" 207°
1443	-65 46 22.55	79.9	+ 1.357-.015	-.02	+.010+ 1	.09	.49	.17	
1444	+27 56 16.31	78.2	+ 1.340-.550	-.02	.000 0	.14	.57	.23	
1445	+14 16 36.00	72.8	+ 1.296-.497	-.02	-.033 0	.09	.31	.15	135 Tauri
1446	-51 6 9.37	76.9	+ 1.408-.207	-.01	+.090 0	.11	.48	.19	
1447	-14 30 47.49	91.0	+ 1.269-.396	-.01	-.036 0	.14	.93	.23	69 G Leporis *
1448	+14 24 51.74	66.8	+ 1.273-.497	-.01	-.028 0	.09	.37	.18	Küstn. 23. 9 <sup>m</sup> 1" 104°
1449	-80 32 39.77	79.9	+ 2.372+.691	-.17	+ 1.072- 13	.06	.58	.19	
1450	+14 1 6.85	65.9	+ 1.300-.496	-.01	+.004 0	.08	.33	.16	

1431 OZ 118. 8<sup>m</sup> 0" 7 320°; 7<sup>m</sup> 75" 162°.1433 Z 795. 6<sup>m</sup> 2-6<sup>m</sup> 2 1" 4 206°.1447 B 94. 9<sup>m</sup> 2" 5 179°.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>m</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
1451	Pi 252	6.0	5 45 42.899	81.6	+2.5055+.0025	-.001	-.0006 0	.12	.63	.22
1452	Br 831	5.3	46 0.413	75.4	+5.3713+.0094	-.092	+0.0009- 1	.08	.33	.14
1453	$\xi$ Aurigæ	5.0	46 27.907	66.0	+5.0260+.0077	-.068	-0.0009 0	.11	.51	.25
1454	Br 853	5.5	46 32.326	69.8	+2.8964+.0025	-.004	+0.0008 0	.12	.42	.21
1455	Br 849	5.8	46 41.438	60.0	+3.4077+.0030	-.009	-0.0009 0	.11	.36	.21
1456	$\delta$ Leporis	3.9	47 1.257	74.8	+2.5804+.0014	-.002	+0.0172- 5	.07	.36	.14
1457	Br 848	4.7	47 2.525	66.8	+3.7705+.0036	-.016	+0.0009 0	.06	.26	.13
1458	Br 855	5.1	47 14.888	77.4	+3.1150+.0026	-.005	.0000 0	.11	.33	.16
1459	$\beta$ Columbæ	3.0	47 26.086	77.9	+2.1136+.0033	-.001	+0.0039+ 4	.07	.34	.13
1460	$\gamma$ Pictoris	4.4	48 0.600	86.3	+1.0875+.0038	-.003	+0.0082- 2	.14	.70	.22
1461	$\chi$ Orionis	4.6	48 27.634	69.4	+3.5518+.0029	-.012	-0.0132- 1	.06	.28	.13
1462	L 2052	5.1	48 37.488	83.0	+1.3558+.0032	-.003	+0.0001- 2	.16	.82	.28
1463	L 2040	7.3	48 44.624	94.0	+1.9092+.0027	-.001	+0.0025 0	.13	1.10	.22
1464	Br 857	6.1	49 1.449	72.0	+3.5512+.0029	-.012	+0.0001 0	.10	.38	.18
1465	L 2041	5.7	49 8.604	88.0	+2.0445+.0025	-.001	+0.0022 0	.15	.75	.22
1466	L 2046	7.0	49 26.758	86.8	+2.0086+.0026	-.001	.0000 0	.15	.72	.22
1467	$\lambda$ Columbæ	5.0	49 29.067	82.3	+2.1779+.0025	-.001	+0.0001 0	.13	.86	.27
1468	$\alpha$ Orionis	Var.	49 45.481	66.2	+3.2474+.0026	-.006	+0.0019 0	.02	.11	.05
1469	$\epsilon$ Doradus	5.3	49 59.792	75.2	-0.0660+.0070	.000	-0.0041 0	.15	.62	.26
1470	Bruss 2371	6.0	50 3.647	98.6	+2.7975+.0024	-.003	+0.0039 0	.15	1.12	.20
1471	Pi 246	7.1	50 26.225	74.7	+6.2206+.0098	-.171	+0.0019- 1	.11	.52	.22
1472	$\delta$ Aurigæ	3.8	51 17.596	82.2	+4.9391+.0046	-.063	+0.0098- 2	.04	.22	.08
1473	Br 851	6.8	51 25.573	74.1	+5.0028+.0048	-.066	+0.0008- 2	.13	.50	.22
1474	L 2067	5.7	51 37.254	88.8	+1.9503+.0026	-.001	-0.0024 0	.16	.82	.24
1475	Br 862	4.9	51 47.329	73.2	+3.7220+.0028	-.015	-0.0001 0	.09	.45	.19
1476	$\eta$ Leporis	3.7	51 51.010	71.6	+2.7319+.0024	-.002	-0.0028+ 1	.05	.27	.12
1477	$\xi$ Columbæ	5.1	52 3.458	89.0	+2.0627+.0024	-.001	+0.0018 0	.10	.62	.16
1478	$\beta$ Aurigæ	1.8	52 11.622	70.8	+4.4007+.0036	-.037	-0.0044 0	.03	.16	.07
1479	$\pi$ Aurigæ	4.6	52 30.811	78.3	+4.4529+.0036	-.039	+0.0008 0	.09	.39	.15
1480	$\sigma$ Columbæ	5.8	52 35.154	81.1	+2.2576+.0024	-.001	+0.0005 0	.14	.70	.25
1481	L 2087	5.4	52 38.028	83.1	+1.3202+.0040	-.003	-0.0014+ 4	.18	.70	.26
1482	$\theta$ Aurigæ	2.6	52 54.132	76.5	+4.0910+.0028	-.025	+0.0045- 1	.04	.22	.08
1483	Groomb 1055	6.6	53 0.148	78.8	+4.3863+.0033	-.035	-0.0027 0	.12	.54	.21
1484	Br 869	6.1	53 12.798	65.1	+3.1153+.0022	-.005	+0.0003 0	.12	.39	.21
1485	Pulk <sub>ss</sub> 950 m	6.0	53 15.600	87.0	+3.3742+.0024	-.008	-0.0016 0	.12	.62	.19
1486	L 2106	4.6	53 20.217	76.9	+0.4563+.0080	-.003	+0.0195+ 17	.15	.64	.26
1487	Br 861	5.9	53 23.380	65.6	+4.5524+.0034	-.044	+0.0018 0	.15	.52	.28
1488	Br 870	5.3	53 41.077	82.1	+3.0842+.0022	-.005	-0.0008 0	.11	.36	.15
1489	L 2113	7.0	53 44.577	86.0	+0.2673+.0053	-.002	-0.0043+ 2	.18	.82	.27
1490	$\gamma$ Columbæ	4.4	53 59.488	81.7	+2.1263+.0024	-.001	-0.0003 0	.08	.39	.14
1491	Br 872	6.5	54 15.725	73.0	+2.8523+.0022	-.003	+0.0009 0	.15	.62	.27
1492	Br 874	5.3	54 19.473	66.2	+2.8492+.0021	-.003	+0.0020 0	.13	.44	.23
1493	Pi 280	6.3	55 2.448	72.0	+4.6632+.0029	-.048	+0.0039- 1	.11	.52	.23
1494	Pulk <sub>ss</sub> 958	4.8	55 3.154	90.0	+3.0016+.0020	-.004	+0.0011 0	.08	.78	.17
1495	Br 871	6.6	55 39.282	77.3	+3.6222+.0022	-.013	-0.0008 0	.10	.33	.15
1496	L 2098	6.0	55 39.629	83.8	+1.7811+.0026	-.002	+0.0010 0	.15	.70	.24
1497	$\eta$ Columbæ	3.9	56 5.156	78.4	+1.8359+.0025	-.002	+0.0019 0	.11	.50	.19
1498	Br 868	6.3	56 5.402	65.6	+4.3260+.0021	-.034	+0.0113- 2	.09	.32	.16
1499	Br 864	6.6	56 33.316	80.8	+4.7584+.0024	-.054	+0.0015- 1	.10	.40	.16
1500	L 2114	7.5	56 40.816	77.8	+1.4075+.0028	-.002	-0.0011 0	.16	.86	.32

1465 Innes. 11<sup>m</sup> 10" 250°.1483  $\beta$  1055. 11<sup>m</sup> 2" 335°; 9<sup>m</sup> 33" 328°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10	Remarks.
	" ' "		" "	"	"	" " "	
1451	-23 0 7.41	77.8	+ 1.282-.365	-.01	+ .033 0	.11 .53 .20	70 G Leporis
1452	+59 51 56.45	68.0	+ 1.199-.782	-.05	-.024 0	.06 .22 .11	31 Camelopardi
1453	+55 41 1.07	53.5	+ 1.195-.732	-.03	+ .012 0	.10 .31 .20	
1454	- 7 32 41.71	71.8	+ 1.173-.422	-.01	-.004 0	.10 .40 .18	55 Orionis
1455	+14 8 46.85	63.5	+ 1.153-.496	-.01	-.011 0	.10 .40 .21	137 Tauri
1456	-20 53 15.11	77.6	+ 0.482-.378	-.01	-.653- 2	.07 .33 .13	
1457	+27 35 19.13	65.8	+ 1.115-.549	-.02	-.018 0	.05 .22 .11	136 Tauri
1458	+ 1 49 50.36	75.2	+ 1.104-.454	-.01	-.011 0	.11 .34 .16	56 Orionis
1459	-35 48 21.23	71.8	+ 1.493-.309	-.01	+ .394- 1	.07 .32 .14	
1460	-56 11 29.86	85.3	+ 0.980-.160	-.01	-.068- 1	.11 .59 .18	
1461	+20 15 27.30	63.3	+ 0.915-.516	-.01	-.094+ 2	.06 .22 .12	54 Orionis $\chi'$ Br. 856
1462	-52 7 54.46	78.0	+ 0.905-.198	-.01	-.090 0	.13 .60 .23	37 G Pictoris
1463	-41 7 44.62	91.8	+ 1.000-.279	-.01	+ .016 0	.12 .83 .19	
1464	+19 43 48.46	60.8	+ 0.938-.518	-.01	-.022 0	.09 .31 .18	57 Orionis $\chi^2$
1465	-37 39 8.87	80.2	+ 0.922-.298	-.01	-.027 0	.13 .51 .20	55 G Columbæ *
1466	-38 32 50.57	81.8	+ 0.913-.293	-.01	-.010 0	.13 .57 .21	Innes. 11 <sup>m</sup> 1''3 122°
1467	-33 49 24.63	71.9	+ 0.947-.318	-.01	+ .028 0	.12 .63 .27	
1468	+ 7 23 18.41	63.8	+ 0.904-.474	-.01	+ .008 0	.02 .11 .06	1 <sup>m</sup> 0 to 1 <sup>m</sup> 5?
1469	-66 55 34.29	75.7	+ 0.886+.010	-.02	+ .011+ 1	.12 .55 .22	
1470	-11 47 37.02	93.7	+ 0.893-.408	.00	+ .024- 1	.14 .90 .20	
1471	+67 0 15.40	74.2	+ 0.807-.907	-.04	-.029 0	.08 .37 .15	
1472	+54 16 37.39	66.8	+ 0.635-.721	-.02	-.126- 1	.05 .17 .09	
1473	+55 18 45.27	61.8	+ 0.656-.729	-.02	-.094 0	.12 .37 .22	
1474	-39 58 29.46	82.4	+ 0.747-.284	.00	+ .014 0	.14 .57 .21	60 G Columbæ
1475	+25 56 29.44	68.5	+ 0.714-.543	-.01	-.004 0	.08 .34 .16	139 Tauri
1476	-14 11 9.48	72.9	+ 0.845-.398	.00	+ .132 0	.06 .27 .12	
1477	-37 8 6.70	83.2	+ 0.675-.301	.00	-.020 0	.10 .49 .16	
1478	+44 56 14.48	66.6	+ 0.678-.641	-.01	-.005+ 1	.03 .14 .07	
1479	+45 55 40.07	74.8	+ 0.647-.649	-.01	-.008 0	.08 .30 .13	
1480	-31 23 46.55	75.6	+ 0.645-.329	.00	-.003 0	.14 .63 .26	
1481	-52 39 27.20	82.6	+ 0.884-.192	.00	+ .240 0	.15 .65 .23	42 G Pictoris
1482	+37 12 20.19	73.1	+ 0.531-.597	-.01	-.090- 1	.04 .20 .08	0 $\Sigma$ 545. 7 <sup>m</sup> 5 2''5 345° slow
1483	+44 35 6.06	72.7	+ 0.570-.639	-.01	-.042 0	.10 .37 .17	*
1484	+ 1 49 37.25	61.0	+ 0.582-.454	.00	-.012 0	.10 .35 .20	59 Orionis
1485	+12 47 55.02	82.6	+ 0.616-.492	-.01	+ .026 0	.10 .55 .18	0 $\Sigma$ 124. 6 <sup>m</sup> 2-8 <sup>m</sup> 0?
1486	-63 7 12.60	83.9	+ 1.129-.069	-.01	+ .546- 3	.14 .75 .24	36 G Doradus
1487	+47 53 44.15	57.5	+ 0.557-.664	-.01	-.021 0	.12 .38 .23	36 Aurigæ
1488	+ 0 32 37.45	81.8	+ 0.553-.449	.00	+ .001 0	.10 .33 .14	60 Orionis
1489	-64 29 55.13	80.8	+ 0.614-.038	-.01	+ .067+ 1	.15 .63 .24	37 G Doradus
1490	-35 17 38.14	76.3	+ 0.528-.310	.00	+ .002 0	.08 .36 .14	
1491	- 9 23 27.09	72.7	+ 0.506-.416	.00	+ .004 0	.12 .49 .22	1 Monocerotis
1492	- 9 33 54.13	68.6	+ 0.443-.416	.00	-.053 0	.10 .40 .19	2 Monocerotis
1493	+49 54 15.40	66.3	+ 0.389-.680	.00	-.045- 1	.11 .44 .22	
1494	- 3 4 41.40	88.0	+ 0.351-.438	.00	-.082 0	.09 .69 .18	
1495	+22 23 53.28	73.7	+ 0.355-.528	.00	-.025 0	.09 .30 .14	141 Tauri
1496	-44 2 30.54	79.8	+ 0.391-.260	.00	+ .011 0	.13 .54 .21	44 G Pictoris
1497	-42 49 14.49	79.0	+ 0.317-.268	.00	-.025 0	.10 .49 .18	
1498	+42 54 53.28	61.0	+ 0.201-.632	.00	-.141- 2	.08 .29 .16	38 Aurigæ
1499	+51 34 33.17	73.3	+ 0.257-.694	.00	-.044 0	.09 .26 .13	35 Camelopardi *
1500	-51 13 43.58	76.5	+ 0.301-.205	.00	+ .011 0	.13 .69 .26	

1499 0 $\Sigma$  128. 8<sup>m</sup> 40'' 13°; comp. is a close double.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1501	$\mu$ Orionis	4.2	5	56	52.896	69.4	+3.3007+.0020	-.008	+0.0012 0	.09	.32	.16
1502	$\kappa$ Mensæ	5.7	57	1.705	78.5	78.5	-4.0604+.0148	+.290	-.0067+11	.10	.64	.23
1503	Br 883	4.8	57	8.167	70.8	70.8	+2.8224+.0021	-.003	+0.0001 0	.14	.54	.25
1504	Br 878	5.2	57	32.171	72.4	72.4	+3.5509+.0019	-.012	+0.0003 0	.08	.52	.21
1505	L 2108	5.7	57	38.817	85.8	85.8	+2.1754+.0022	-.001	+0.0015 0	.11	.62	.19
1506	Br 873	6.2	57	51.921	75.5	75.5	+4.3156+.0016	-.034	-.0025- 2	.10	.40	.17
1507	Br 881	4.8	57	58.849	71.2	71.2	+3.5631+.0019	-.012	+0.0006 0	.09	.42	.19
1508	Br 880	4.3	58	2.479	69.4	69.4	+3.6464+.0017	-.014	-.0006- 1	.05	.27	.12
1509	L 2123	6.0	58	28.511	84.9	84.9	+1.4060+.0029	-.002	-.0030+ 1	.18	.84	.28
1510	L 2133	7.5	59	2.986	79.2	79.2	+0.9228+.0030	-.004	-.0022+ 1	.15	.70	.26
1511	Pi 327	5.3	59	13.778	79.5	79.5	+2.4154+.0023	-.001	+0.0031+ 1	.10	.56	.20
1512	Pulk <sub>ss</sub> 972	5.3	59	21.912	92.9	92.9	+2.9146+.0019	-.004	-.0006 0	.13	.78	.19
1513	Pi 321	6.0	59	38.225	92.3	92.3	+3.1997+.0018	-.006	+0.0004 0	.13	.62	.17
1514	Br 885	5.9	59	41.311	84.5	84.5	+3.1694+.0018	-.006	-.0002 0	.06	.46	.13
1515	Br 882	5.7	59	41.456	78.9	78.9	+4.1362+.0014	-.027	+0.0011- 1	.11	.39	.17
1516	Br 890	5.1	6	0 31.398	70.7	70.7	+2.6772+.0020	-.002	+0.0002 0	.13	.54	.25
1517	L 2124	5.9	0	37.166	82.8	82.8	+2.2316+.0024	-.001	-.0001+ 1	.18	1.36	.41
1518	Br 884	7.1	0	42.888	70.8	70.8	+3.6583+.0015	-.014	+0.0008 0	.11	.44	.20
1519	Br 889	6.0	0	43.712	73.7	73.7	+2.8321+.0020	-.003	+0.0011 0	.13	.69	.28
1520	Br 876	5.5	1	9.722	76.6	76.6	+5.2971+.0003	-.086	+0.0051 0	.09	.36	.15
1521	L 2137	6.6	1	35.741	79.7	79.7	+1.7262+.0030	-.002	-.0080+ 3	.11	.51	.19
1522	$\theta$ Leporis	4.7	1	37.771	61.5	61.5	+2.7156+.0020	-.002	-.0005 0	.11	.39	.22
1523	Pulk <sub>ss</sub> 981	5.5	1	41.269	92.3	92.3	+2.9749+.0018	-.004	+0.0003 0	.13	.78	.19
1524	L 2141	6.1	1	47.584	80.4	80.4	+1.7251+.0030	-.002	-.0072+ 3	.14	.58	.22
1525	$\nu$ Orionis	4.4	1	51.731	79.7	79.7	+3.4256+.0015	-.009	+0.0006 0	.03	.20	.06
1526	Br 894	6.8	2	10.991	74.8	74.8	+2.8087+.0019	-.003	+0.0001 0	.13	.66	.27
1527	L 2145 <i>m</i>	6.9	2	11.311	80.9	80.9	+1.5528+.0023	-.002	-.0117 0	.18	.92	.32
1528	L 2130	5.9	2	14.536	88.2	88.2	+2.3108+.0021	-.001	+0.0022 0	.11	.90	.23
1529	Pi 342	5.7	2	21.869	84.6	84.6	+2.5014+.0020	-.001	-.0009 0	.12	.68	.21
1530	Br 875	5.5	2	47.454	81.2	81.2	+6.0392-.0021	-.152	+0.0019- 1	.06	.39	.13
1531	Br 898	5.7	3	20.653	75.7	75.7	+2.6096+.0020	-.002	+0.0014 0	.12	.52	.22
1532	L 2142	6.2	3	27.507	83.3	83.3	+2.1605+.0022	-.001	-.0003 0	.14	.82	.26
1533	L 2154	6.5	3	35.609	83.6	83.6	+1.8540+.0022	-.001	-.0030 0	.14	.69	.23
1534	Br 891	6.0	3	39.652	58.6	58.6	+3.6442+.0011	-.014	+0.0011 0	.13	.45	.27
1535	Dpt 685	6.4	3	44.705	76.0	76.0	+3.1300+.0016	-.005	-.0010 0	.15	.75	.30
1536	Br 886 S*	6.3	3	56.951	64.4	64.4	+4.5972-.0004	-.045	+0.0022- 1	.11	.40	.22
1537	$\theta$ Columbæ	5.4	4	5.906	80.2	80.2	+2.0567+.0022	-.001	+0.0001 0	.10	.45	.16
1538	Paris 7344	5.6	4	45.644	96.8	96.8	+2.5216+.0019	-.002	+0.0003 0	.13	1.00	.18
1539	L 2164	5.7	4	46.544	90.2	90.2	+1.8631+.0022	-.001	-.0003 0	.12	.72	.19
1540	Cord 7358	5.9	5	2.075	99.6	99.6	+2.7226+.0019	-.002	-.0025 0	.14	1.46	.21
1541	Br 896	6.1	5	24.327	68.3	68.3	+3.6801+.0008	-.014	+0.0005 0	.10	.42	.20
1542	Lal 11784	6.0	5	36.080	97.9	97.9	+2.5193+.0021	-.001	+0.0074+ 1	.14	1.18	.20
1543	L 2174	6.5	5	37.963	86.4	86.4	+1.7644+.0022	-.002	-.0024 0	.16	.78	.25
1544	L 2203	6.0	6	2.317	82.5	82.5	+0.0683+.0013	-.001	+0.0003+ 1	.13	.70	.23
1545	Br 900	6.0	6	5.941	71.5	71.5	+3.5541+.0009	-.012	+0.0004 0	.12	.46	.21
1546	Brisb 1172	5.1	6	8.595	86.4	86.4	+0.5480+.0012	-.003	+0.0028- 2	.14	.87	.25
1547	L 2512	7.1	6	9.511	80.3	80.3	-15.735-.117		-.026 0	.06	.52	.17
1548	$\xi$ Orionis	4.4	6	15.259	63.1	63.1	+3.4118+.0011	-.009	+0.0006 0	.12	.40	.22
1549	Br 899	6.5	6	15.383	67.7	67.7	+3.6392+.0008	-.014	+0.0017 0	.13	.52	.26
1550	Br 901	5.1	6	17.276	74.0	74.0	+3.4597+.0010	-.010	+0.0004 0	.13	.45	.21

1503  $\beta$  16.  $9^M 11^S 355^O$ .1524 h 3834.  $9^M 31^S 225^O$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
1501	+ 9 38 50.26	73.2	+0.244- .481	.00	-.029 0	.08 .38 .16	
1502	-79 22 43.42	81.6	+0.317+ .593	-.04	+.057+ 1	.09 .59 .19	
1503	-10 35 57.03	69.0	+0.257- .411	.00	+.006 0	.11 .41 .20	3 Monocerotis *
1504	+19 41 31.81	69.5	+0.187- .518	.00	-.028 0	.07 .36 .16	64 Orionis
1505	-33 54 44.86	77.3	+0.186- .317	.00	-.020 0	.12 .53 .21	67 G Columbæ ( $\phi$ )
1506	+42 59 21.35	71.5	+0.042- .629	.00	-.145 0	.09 .35 .16	39 Aurigæ
1507	+20 8 26.67	68.6	+0.164- .519	.00	-.013 0	.08 .36 .17	62 Orionis $\chi^2$ ( $\chi^4$ )
1508	+23 16 7.36	63.5	+0.063- .532	.00	-.108 0	.06 .22 .12	1 Geminorum
1509	-51 13 11.92	80.4	+0.211- .205	.00	+.078 0	.14 .61 .23	45 G Pictoris
1510	-58 6 11.56	77.8	+0.112- .134	.00	+.029 0	.13 .57 .22	
1511	-26 17 2.19	81.0	+0.162- .353	.00	+.095 0	.10 .47 .17	
1512	- 6 42 16.79	89.2	+0.047- .425	.00	-.009 0	.12 .64 .18	
1513	+ 5 25 32.18	84.9	+0.035- .467	.00	+.003 0	.12 .46 .17	63 Orionis
1514	+ 4 9 51.57	80.1	+0.015- .462	.00	-.012 0	.06 .35 .12	66 Orionis
1515	+38 29 29.92	76.3	-.027- .603	+.01	-.054 0	.10 .36 .16	40 Aurigæ
1516	-16 28 39.39	70.2	-.045- .390	.00	+.001 0	.11 .40 .19	17 Leporis
1517	-32 10 11.63	79.1	+0.069- .325	.00	+.123 0	.20 1.97 .64	72 G Columbæ
1518	+23 38 51.55	62.6	-.076- .533	.00	-.014 0	.10 .37 .20	2 Geminorum
1519	-10 14 9.49	73.0	-.048- .413	.00	+.016 0	.10 .51 .21	
1520	+58 56 55.26	70.6	-.082- .773	+.01	+.020- 1	.08 .27 .13	37 Camelopardi
1521	-45 2 10.38	78.0	+0.089- .250	.00	+.229+ 1	.09 .45 .17	1 G Puppis
1522	-14 55 34.30	65.1	-.0120- .396	.00	+.023 0	.11 .38 .20	
1523	- 4 11 1.31	89.3	-.0154- .434	.00	-.006 0	.12 .67 .18	
1524	-45 4 41.71	79.0	+0.087- .250	.00	+.244+ 1	.12 .50 .20	2 G Puppis *
1525	+14 46 49.30	78.5	-.0199- .499	.00	-.036 0	.03 .19 .07	
1526	-11 9 45.60	73.4	-.0197- .409	.00	-.006 0	.11 .43 .19	
1527	-48 26 56.99	75.0	-.0225- .225	.00	-.034+ 2	.14 .63 .26	3 G Puppis *
1528	-29 44 50.68	84.6	-.0238- .337	.00	-.042 0	.11 .75 .22	74 G Columbæ
1529	-23 5 57.22	83.6	-.0225- .364	.00	-.018 0	.10 .49 .16	89 G Leporis
1530	+65 44 17.96	73.2	-.0271- .880	+.02	-.027 0	.06 .24 .11	36 Camelopardi
1531	-19 9 14.45	77.0	-.0232- .380	.00	+.060 0	.10 .44 .18	19 Leporis
1532	-34 17 57.49	73.4	-.0302- .315	.00	.000 0	.13 .63 .26	76 G Columbæ
1533	-42 17 10.94	82.8	-.0327- .270	.00	-.013 0	.13 .63 .22	78 G Columbæ $\pi^1$
1534	+23 7 46.64	58.0	-.0333- .531	.00	-.013 0	.10 .41 .24	3 Geminorum
1535	+ 2 30 55.76	65.6	-.0350- .456	.00	-.022 0	.11 .46 .23	$\Sigma$ 855 $7^M 4 29'' 5 113^\circ$
1536	+48 43 52.61	58.4	-.0407- .670	+.02	-.062 0	.09 .36 .21	41 Aurigæ *
1537	-37 14 19.82	71.8	-.0362- .300	.00	-.004 0	.10 .39 .18	
1538	-22 24 34.71	94.8	-.0467- .367	.00	-.051 0	.14 .94 .20	94 G Leporis
1539	-42 8 17.58	85.4	-.0433- .272	.00	-.015 0	.11 .53 .17	80 G Columbæ ( $\pi^2$ )
1540	-14 34 4.00	96.5	-.0389- .396	.00	+.051 0	.15 1.43 .24	96 G Leporis
1541	+24 26 32.17	65.4	-.0529- .536	+.01	-.056 0	.09 .37 .19	5 Geminorum
1542	-22 45 26.44	97.0	-.0396- .368	.00	+.094- 1	.15 1.08 .21	97 G Leporis
1543	-44 20 20.87	77.9	-.0482- .256	.00	+.011 0	.13 .53 .21	7 G Puppis
1544	-66 1 32.07	82.4	-.0503- .010	.00	+.025 0	.11 .63 .21	38 G Doradus $\eta^1$
1545	+19 48 46.10	66.2	-.0547- .518	+.01	-.014 0	.11 .42 .21	68 Orionis
1546	-62 8 11.53	87.4	-.0608- .080	.00	-.071 0	.12 .83 .22	47 G Pictoris
1547	-85 55 52.97	82.4	-.0538+ 2.297		+.001+ 4	.06 .44 .14	6 G Octantis
1548	+14 13 52.66	62.1	-.0581- .497	+.01	-.034 0	.11 .36 .20	
1549	+22 55 51.90	66.7	-.0561- .530	+.01	-.014 0	.11 .47 .23	6 Geminorum
1550	+16 9 11.08	70.8	-.0573- .504	+.01	-.023 0	.12 .42 .20	69 Orionis $f^1$

1527 Dunlop.  $7^M 6-7^M 8 1'' 7 40^\circ$ ; slow binary.1536  $\Sigma$  845.  $7^M 5 7'' 6 355^\circ$ .



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
			M	h	m					s	$\alpha$ Ep.	100 $\mu$
1551	Pi 17	6.0	6	6	35.899	82.2	+2.3871+.0019	-.001	-.0007 0	.14	.66	.23
1552	Br 888	5.8	6	41.608	71.4	+5.3945-.0034	-.093	+0.0058 0	.10	.46	.21	
1553	L 2182	5.6	6	56.699	91.0	+1.9339+.0023	-.001	-.0042+ 1	.10	.62	.15	
1554	Pulk <sub>ss</sub> 999	5.2	6	59.816	86.8	+2.9189+.0016	-.004	-.0006 0	.11	.63	.18	
1555	L 2191	6.4	7	47.412	86.4	+1.7234+.0021	-.002	-.0011 0	.13	.69	.21	
1556	Pi 335	4.7	7	49.688	80.1	+6.6197-.0102	-.220	+0.0023- 6	.04	.30	.10	
1557	Groomb 1004	6.9	8	2.87	72.4	+26.698-.351		+0.030-196	.06	.40	.16	
1558	$\delta$ Pictoris	4.9	8	21.005	76.6	+1.1662+.0018	-.003	-.0025 0	.11	.54	.21	
1559	Arm 767	6.0	8	38.135	95.9	+3.5053+.0007	-.011	+0.0007 0	.13	.88	.18	
1560	Br 893	5.5	8	41.639	69.1	+5.5375-.0051	-.105	+0.0006 0	.10	.33	.17	
1561	$\eta$ Geminorum	4.2	8	50.481	73.8	+3.6220+.0005	-.014	-.0045 0	.03	.16	.07	
1562	Arm 1402	8.0	8	54.166	86.3	+4.0464-.0005	-.024	-.0025 0	.16	.86	.26	
1563	Br 904	7.4	8	54.680	84.1	+4.0439-.0005	-.024	-.0051 0	.12	.46	.17	
1564	Br 911	5.3	8	57.826	75.2	+3.5302+.0003	-.011	-.0069- 1	.09	.39	.16	
1565	$\kappa$ Aurigæ	4.5	9	0.372	61.3	+3.8241-.0004	-.018	-.0049- 2	.07	.32	.17	
1566	$\nu$ Doradus	5.3	9	22.764	83.4	-0.3852-.0008	+0.005	-.0109+ 2	.14	.69	.23	
1567	Pulk <sub>ss</sub> 1005	6.0	9	28.053	99.3	+3.4050+.0008	-.009	+0.0027 0	.12	.72	.15	
1568	Br 913	5.4	9	39.138	79.4	+3.4600+.0007	-.010	+0.0004 0	.12	.38	.16	
1569	Pulk <sub>ss</sub> 1007	6.0	9	40.067	96.1	+2.9663+.0014	-.004	.0000 0	.14	.90	.19	
1570	Br 920	4.2	9	58.699	77.1	+2.9260+.0015	-.004	-.0003 0	.07	.32	.12	
1571	Br 905	6.9	10	7.456	75.8	+4.4728-.0019	-.039	-.0044 0	.11	.42	.18	
1572	Br 916	5.6	10	7.956	62.9	+3.3712+.0008	-.008	+0.0008 0	.11	.39	.21	
1573	Br 914	6.4	10	12.431	70.1	+3.6656+.0002	-.014	-.0012 0	.15	.48	.24	
1574	Pulk <sub>ss</sub> 1015	5.9	10	29.136	96.1	+3.0503+.0010	-.005	-.0110- 1	.13	.98	.19	
1575	Br 902	4.5	10	48.024	79.9	+5.2976-.0054	-.086	-.0007 0	.05	.26	.09	
1576	Br 908	6.7	10	49.458	78.3	+4.4751-.0025	-.039	+0.0009- 2	.10	.40	.16	
1577	Br 919	5.3	10	49.697	72.5	+3.3694+.0010	-.008	+0.0060+ 1	.08	.33	.15	
1578	Br 917	6.5	10	52.693	82.6	+3.6613+.0001	-.014	+0.0009 0	.12	.39	.16	
1579	$\eta$ Doradus	4.9	11	2.057	75.3	+0.1298+.0004	-.001	-.0044+ 4	.14	.68	.27	
1580	Pulk <sub>ss</sub> 1020	5.1	11	9.981	96.7	+2.7478+.0016	-.002	+0.0005 0	.14	1.00	.19	
1581	Br 921	5.5	11	35.845	77.7	+3.3074+.0007	-.007	+0.0002 0	.10	.34	.15	
1582	Pi 49	6.0	11	58.268	85.6	+3.1764+.0012	-.006	-.0158+ 1	.14	.96	.27	
1583	Pi 43	7.0	12	4.781	62.4	+3.7606-.0004	-.016	+0.0009- 1	.15	.60	.32	
1584	Br 922	6.9	12	48.813	84.2	+3.6564-.0001	-.013	-.0001 0	.13	.40	.16	
1585	Br 906	7.5	12	52.499	72.2	+5.5636-.0087	-.107	+0.0021- 3	.11	.48	.21	
1586	Br 927	7.2	12	53.050	83.7	+2.8196+.0015	-.003	-.0009 0	.08	.46	.15	
1587	$\kappa$ Columbae	4.5	12	59.646	74.7	+2.1336+.0021	-.001	-.0007+ 1	.10	.48	.20	
1588	Br 910 m	6.2	13	11.100	68.8	+5.3301-.0070	-.089	+0.0003 0	.12	.54	.26	
1589	$\alpha$ Mensæ	5.2	13	12.994	87.3	-1.7838-.0144	+0.054	+0.0273-19	.15	.86	.24	
1590	Br 923	7.3	13	14.055	81.8	+3.6531-.0002	-.013	+0.0004 0	.13	.39	.17	
1591	Lal 12060	5.5	13	14.728	97.6	+2.6692+.0016	-.002	-.0009 0	.14	1.08	.19	
1592	L 2217	5.7	13	37.050	87.6	+2.0408+.0021	-.001	-.0004+ 1	.15	.75	.22	
1593	Br 915	5.5	13	38.685	78.6	+4.8785-.0052	-.059	+0.0034- 2	.10	.44	.17	
1594	Lal 12085	5.5	13	54.824	96.3	+2.5876+.0017	-.002	-.0011 0	.15	1.05	.21	
1595	Pulk <sub>ss</sub> 1032	5.8	14	5.256	94.7	+2.8536+.0014	-.003	+0.0009 0	.13	.86	.19	
1596	Pulk <sub>ss</sub> 1030	6.0	14	22.039	92.0	+3.4213+.0003	-.009	-.0008 0	.13	.72	.18	
1597	Paris 7598	5.9	14	42.600	96.3	+2.5628+.0017	-.002	-.0007 0	.14	1.14	.21	
1598	Br 928	5.3	14	53.779	74.0	+2.8896+.0013	-.003	-.0005 0	.11	.51	.21	
1599	Pulk <sub>ss</sub> 1034	5.3	14	59.127	94.6	+3.0041+.0011	-.004	-.0006 0	.13	.88	.19	
1600	L 2228	6.0	6	16	4.837	85.9	+2.1616+.0019	-.001	+0.0005 0	.15	.88	.26

1588  $\Sigma$  881. 8<sup>m</sup> 0<sup>h</sup> 9 104°, slow.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10	Remarks.
	" ' "		" "	"	"	" " "	
1551	-27 7 55.05	80.0	-0.623-.347	.00	-.046 0	.13 .61 .22	100 G Leporis
1552	+60 1 36.49	63.5	-0.606-.787	+.03	-.021- 1	.09 .28 .16	40 Camelopardi
1553	-40 20 6.85	85.2	-0.554-.281	.00	+.053+ 1	.11 .50 .17	82 G Columbæ
1554	-6 31 38.93	83.4	-0.622-.425	+.01	-.010 0	.10 .56 .18	
1555	-45 15 34.93	82.4	-0.680-.250	.00	+.001 0	.11 .51 .18	9 G Puppis
1556	+69 21 18.57	76.3	-0.794-.964	+.06	-.109 0	.04 .26 .10	22 H Camelopardi
1557	+86 45 36.42	67.0	-0.800-3.894		-.097- 4	.08 .41 .19	
1558	-54 56 46.96	76.9	-0.738-.169	.00	-.008 0	.10 .47 .18	
1559	+17 56 4.79	93.7	-0.782-.510	+.01	-.027 0	.12 .75 .17	
1560	+61 32 51.69	61.1	-0.763-.806	+.04	-.003 0	.09 .23 .14	1 Lynxis
1561	+22 32 9.01	69.6	-0.790-.526	+.01	-.017+ 1	.03 .18 .08	$\beta$ 1008.9 <sup>M</sup> 1" 291°; slow binary
1562	+36 10 32.41	81.5	-0.796-.589	+.02	-.017 0	.13 .79 .26	} $\Sigma$ 872. 11" 217°
1563	+36 10 41.94	72.5	-0.779-.588	+.02	.000+ 1	.09 .33 .16	
1564	+19 11 25.21	74.7	-0.985-.513	+.01	-.201+ 1	.08 .42 .17	71 Orionis
1565	+29 32 5.81	57.2	-1.054-.556	+.01	-.266+ 1	.06 .25 .14	
1566	-68 49 18.94	85.0	-0.788+.058	.00	+.032+ 2	.12 .63 .20	
1567	+13 52 50.76	93.9	-0.817-.496	+.01	+.011 0	.13 .60 .16	
1568	+16 10 26.11	74.9	-0.864-.504	+.01	-.020 0	.11 .34 .16	72 Orionis $f^2$
1569	-4 32 20.51	90.7	-0.833-.432	+.01	+.012 0	.13 .69 .19	$\beta$ 566 11 <sup>M</sup> 1" 8 210°
1570	-6 14 38.87	76.6	-0.893-.426	+.01	-.021 0	.07 .35 .14	5 Mon., Gould has $\gamma$
1571	+46 27 26.44	71.7	-0.872-.651	+.03	+.013+ 1	.10 .37 .17	42 Aurigæ
1572	+12 34 56.41	60.4	-0.898-.491	+.01	-.012 0	.09 .34 .19	73 Orionis ( $k^1$ )
1573	+24 0 8.12	65.5	-0.916-.533	+.02	-.024 0	.13 .45 .24	8 Geminorum
1574	-0 28 27.80	92.9	-1.121-.442	+.01	-.204+ 2	.12 .79 .18	
1575	+59 2 49.75	72.4	-0.923-.771	+.05	+.021 0	.05 .18 .08	2 Lynxis
1576	+46 23 57.73	74.2	-1.079-.652	+.03	-.133 0	.09 .34 .15	43 Aurigæ
1577	+12 18 0.38	68.1	-0.754-.491	+.01	+.193- 1	.08 .29 .14	74 Orionis $k$ (and $k^2$ )
1578	+23 46 28.97	76.1	-0.955-.533	+.02	-.004 0	.11 .32 .15	9 Geminorum
1579	-65 33 56.48	79.1	-0.857-.018	.00	+.108+ 1	.13 .63 .23	40 G Doradus $\eta^2$
1580	-13 41 7.67	93.1	-0.977-.400	+.01	-.001 0	.14 .90 .21	
1581	+9 58 44.17	73.3	-1.077-.481	+.01	-.063 0	.09 .28 .14	75 Orionis $l$
1582	+5 7 52.47	83.5	-0.890-.460	+.01	+.157+ 2	.12 .75 .23	
1583	+27 14 56.26	54.0	-1.132-.547	+.02	-.076 0	.13 .52 .32	
1584	+23 38 31.07	73.3	-1.135-.532	+.02	-.015 0	.11 .30 .16	10 Geminorum
1585	+61 48 20.96	69.1	-1.228-.810	+.06	-.102 0	.10 .37 .18	3 Lynxis
1586	-10 41 17.76	78.8	-1.147-.410	+.01	-.021 0	.08 .40 .15	6 Monocerotis
1587	-35 6 25.76	69.2	-1.061-.310	+.01	+.075 0	.10 .43 .20	
1588	+59 24 53.71	58.0	-1.147-.775	+.06	+.006 0	.10 .33 .20	4 Lynxis *
1589	-74 43 7.40	87.0	-1.370+.256	+.03	-.215- 4	.12 .71 .20	
1590	+23 30 32.07	77.7	-1.167-.531	+.02	-.010 0	.12 .36 .17	11 Geminorum
1591	-16 46 42.85	92.7	-1.167-.388	+.01	-.009 0	.16 .93 .23	Cord 7588
1592	-37 42 9.57	82.0	-1.117-.296	+.01	+.073 0	.13 .56 .20	36 G Columbæ
1593	+53 29 51.40	71.4	-1.287-.710	+.05	-.094 0	.09 .28 .14	45 Aurigæ
1594	-19 55 41.29	96.7	-1.215-.376	+.01	+.001 0	.17 1.20 .23	13 G Canis Min
1595	-9 20 57.81	92.8	-1.273-.415	+.01	-.042 0	.13 .75 .18	
1596	+14 41 36.05	88.4	-1.271-.497	+.02	-.015 0	.12 .58 .17	
1597	-20 53 5.16	93.7	-1.283-.372	+.01	+.003 0	.15 1.03 .22	
1598	-7 46 51.45	70.8	-1.304-.420	+.01	-.002 0	.09 .37 .17	7 Monocerotis
1599	-2 54 7.69	91.0	-1.309-.436	+.02	+.001 0	.12 .71 .18	
1600	-34 21 12.08	74.0	-1.410-.314	+.01	-.005 0	.13 .61 .26	88 G Columbæ

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1601	$\zeta$ Canis Maj	3.0	6 16 28.474	80.6	+2.3027+.0019	-.001	+0.0006 0	.06	.28	.10
1602	L 2233	7.0	16 30.274	86.4	+1.9762+.0019	-.001	+0.0004 0	.13	.75	.22
1603	Pulk <sub>ss</sub> 1039	5.7	16 45.095	93.0	+2.7939+.0014	-.003	-.0018 0	.12	.84	.19
1604	$\mu$ Geminorum	3.0	16 54.661	69.5	+3.6306-.0007	-.013	+0.0044- 1	.03	.15	.07
1605	L 2234	5.8	16 59.168	86.1	+2.1699+.0019	-.001	-.0001 0	.15	.84	.25
1606	Br 926	5.0	17 11.826	83.1	+4.6252-.0050	-.045	+0.0013 0	.06	.28	.10
1607	Groomb 1149	5.7	17 59.379	84.0	+5.0717-.0080	-.070	-.0013 0	.15	.50	.20
1608	Br 925	5.5	18 5.123	78.2	+5.2445-.0094	-.082	+0.0004 0	.08	.45	.16
1609	$\beta$ Canis Maj	1.8	18 17.755	75.7	+2.6414+.0016	-.002	-.0005 0	.04	.20	.08
1610	$\delta$ Columbæ	3.9	18 27.507	84.2	+2.1914+.0018	-.001	-.0030 0	.10	.51	.17
1611	Br 931	4.5	18 28.143	85.9	+3.1797+.0006	-.006	-.0008 0	.05	.40	.11
1612	Pi 78	6.7	18 34.174	75.7	+3.6970-.0011	-.014	+0.0006 0	.15	.62	.26
1613	L 2252	7.9	19 28.288	91.0	+2.2742+.0018	-.001	-.0014 0	.13	.75	.20
1614	Pulk <sub>ss</sub> 1045	5.5	19 30.453	93.5	+2.7985+.0012	-.003	-.0035 0	.12	.86	.19
1615	Br 934	6.9	19 42.623	82.4	+3.6018-.0009	-.013	-.0004 0	.12	.39	.16
1616	L 2250	6.0	19 52.175	96.4	+2.4368+.0017	-.001	+0.0002 0	.14	1.23	.22
1617	L 2265	5.8	20 32.874	86.9	+2.0796+.0019	-.001	-.0022 0	.10	.57	.17
1618	Pi 112	7.0	20 38.072	91.4	+2.0795+.0018	-.001	-.0026 0	.13	.75	.19
1619	$\nu$ Pictoris	5.9	21 8.772	84.1	+1.0706+.0002	-.003	-.0052- 1	.15	.70	.24
1620	L 2276	6.5	21 29.805	85.6	+1.9460+.0018	-.001	-.0008 0	.15	.72	.23
1621	Lal 12343	6.0	21 35.734	98.6	+3.0391+.0007	-.005	+0.0004 0	.14	1.12	.19
1622	$\alpha$ Carinæ	0.	21 43.930	65.4	+1.3313+.0009	-.003	+0.0017 0	.05	.27	.13
1623	Br 940	6.8	21 48.985	69.0	+3.5771-.0011	-.012	-.0020 0	.11	.46	.22
1624	Br 941	6.4	21 59.818	78.2	+3.5691-.0010	-.012	-.0021 0	.11	.45	.18
1625	Br 945	7.2	22 3.688	72.2	+2.9737+.0008	-.004	+0.0013 0	.14	.68	.29
1626	Br 943	5.4	22 5.661	87.0	+3.0808+.0006	-.005	+0.0001 0	.12	.45	.16
1627	Br 930	6.1	22 6.079	73.4	+5.2196-.0130	-.080	-.0012- 8	.08	.30	.13
1628	Pulk <sub>ss</sub> 1053	5.9	22 6.607	93.7	+3.1383+.0004	-.006	-.0030 0	.13	.82	.19
1629	Br 938	Var.	22 8.423	70.3	+3.8571-.0023	-.018	-.0005 0	.10	.48	.22
1630	Br 944	6.0	22 8.856	65.9	+3.0677+.0006	-.005	+0.0004 0	.13	.52	.27
1631	L 2284	7.3	22 34.432	85.3	+1.9195+.0017	-.001	-.0001 0	.15	.70	.23
1632	Br 935	6.2	22 34.799	66.7	+4.4866-.0060	-.040	+0.0005 0	.12	.57	.28
1633	L 2290	7.5	23 0.309	88.2	+1.8908+.0017	-.001	-.0019 0	.16	.75	.23
1634	Br 948	5.1	23 1.283	86.6	+2.9628+.0009	-.004	-.0002 0	.05	.44	.11
1635	$\nu$ Geminorum	4.1	23 1.536	77.0	+3.5630-.0011	-.012	-.0006 0	.05	.26	.10
1636	L 2297	6.1	23 4.712	83.4	+1.5872+.0012	-.002	-.0023 0	.15	.84	.27
1637	Pi 42	6.9	23 5.644	71.4	+10.3760-.0968	-1.167	+0.0044+ 3	.12	.45	.21
1638	L 2340	5.7	23 34.937	82.0	-0.5639-.0093	+0.007	+0.0022 0	.13	.72	.24
1639	Br 952 <sup>1</sup>	4.5	23 58.028	71.0	+2.9074+.0009	-.003	-.0025 0	.12	.44	.21
1640	Br 952 <sup>2</sup> m	5.0	23 58.550	83.8	+2.9073+.0009	-.003	-.0025 0	.15	.93	.28
1641	$\lambda$ Canis Maj	4.5	24 27.739	81.2	+2.2230+.0018	-.001	-.0022 0	.09	.48	.17
1642	L 2300	6.0	24 55.972	83.0	+2.2311+.0018	-.001	-.0011 0	.15	.75	.25
1643	Groomb 1151	6.0	24 56.916	75.4	+9.3694-.0806	-.805	+0.0062 0	.07	.44	.17
1644	L 2328	5.9	25 29.178	79.6	+0.9490-.0008	-.004	-.0030- 1	.16	.69	.27
1645	Br 953	6.6	25 52.322	78.2	+3.4519-.0010	-.010	-.0006 0	.12	.34	.16
1646	Pi 126	6.1	25 55.701	69.2	+3.9179-.0033	-.020	-.0013 0	.12	.58	.27
1647	Pulk <sub>ss</sub> 1065	5.2	26 13.706	91.5	+3.3466-.0005	-.008	+0.0014 0	.11	.81	.18
1648	L 2368	5.5	26 19.846	85.6	-0.5089-.0083	+0.006	-.0050+ 10	.12	.68	.20
1649	Br 955	7.4	26 27.646	78.4	+3.5029-.0012	-.011	+0.0031 0	.15	.68	.26
1650	Br 956	6.6	6 26 28.367	66.3	+3.5025-.0012	-.011	+0.0025 0	.13	.42	.22

1602 8<sup>m</sup> fols. 2<sup>h</sup> 7, N 25".  
1617 h 3857. 8<sup>m</sup> 8 13" 255°.

1611  $\Sigma$  900. 7<sup>m</sup> 2 14" 25°.  
1623 9<sup>m</sup> 29" 204°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
1601	-30 1 8.07	77.5	-1.439- .334	+ .01	+ .001 0	.06 .30 .12	
1602	-39 26 32.61	81.8	-1.457- .287	+ .01	- .015 0	.13 .56 .20	89 G Columbæ *
1603	-11 43 37.26	89.6	-1.477- .405	+ .02	- .013 0	.12 .80 .20	$\Sigma$ 3116. 9 <sup>m</sup> 4'' 24°
1604	+22 33 53.90	67.3	-1.591- .528	+ .03	- .113- 1	.03 .14 .06	
1605	-34 5 57.17	74.2	-1.459- .315	+ .01	+ .025 0	.14 .63 .27	90 G Columbæ
1606	+49 20 20.40	77.0	-1.508- .672	+ .05	- .005 0	.05 .21 .09	46 Aurigæ $\psi^1$
1607	+56 20 18.01	80.7	-1.554- .736	+ .06	+ .018 0	.14 .40 .18	
1608	+58 28 18.76	70.8	-1.591- .762	+ .07	- .011 0	.08 .26 .13	5 Lyncis
1609	-17 54 22.48	71.2	-1.599- .383	+ .01	.000 0	.05 .24 .10	
1610	-33 23 8.63	76.0	-1.666- .317	+ .01	- .053 0	.10 .43 .18	{ 91 G Columbæ $\delta$ (3 Canis Maj)
1611	+ 4 38 37.16	80.1	-1.617- .461	+ .02	- .003 0	.05 .26 .09	8 Monocerotis *
1612	+25 6 4.12	74.4	-1.639- .536	+ .03	- .017 0	.13 .56 .24	
1613	-30 53 38.07	79.7	-1.716- .329	+ .01	- .015 0	.15 .75 .27	
1614	-11 28 34.37	90.4	-1.753- .405	+ .02	- .047 0	.11 .71 .18	
1615	+21 42 1.51	71.2	-1.740- .522	+ .03	- .018 0	.11 .30 .16	14 Geminorum
1616	-25 31 24.48	92.0	-1.767- .353	+ .01	- .031 0	.15 1.12 .25	29 G Canis Maj
1617	-36 39 19.23	79.4	-1.747- .301	+ .01	+ .048 0	.10 .46 .17	90 G Columbæ *
1618	-36 38 55.05	82.2	-1.808- .301	+ .01	- .006 0	.12 .52 .19	94 G Columbæ
1619	-56 18 57.57	82.7	-1.872- .154	.00	- .025+ 1	.12 .61 .21	
1620	-40 13 40.00	79.8	-1.884- .282	+ .01	- .006 0	.12 .54 .20	96 G Columbæ
1621	- 1 26 53.32	98.2	-1.916- .440	+ .02	- .030 0	.14 1.10 .19	Cord 7815
1622	-52 38 27.73	69.1	-1.888- .192	.00	+ .010 0	.05 .28 .13	Canopus. a Argûs
1623	+20 51 2.59	60.2	-1.961- .518	+ .03	- .056 0	.09 .31 .18	15 Geminorum *
1624	+20 33 23.01	80.2	-1.925- .517	+ .03	- .004 0	.08 .38 .14	16 Geminorum
1625	- 4 17 45.63	70.4	-1.929- .431	+ .02	- .002 0	.11 .46 .21	9 Monocerotis
1626	+ 0 21 33.16	83.8	-1.941- .446	+ .02	- .011 0	.10 .35 .13	77 Orionis
1627	+58 14 10.54	67.8	-2.260- .756	+ .09	- .330 0	.07 .23 .12	6 Lyncis
1628	+ 2 58 4.14	91.0	-1.941- .454	+ .02	- .010 0	.13 .69 .18	
1629	+30 33 17.10	68.8	-1.957- .558	+ .03	- .023 0	.08 .35 .17	48 Aurigæ 5 <sup>m</sup> to 6 <sup>m</sup>
1630	- 0 12 57.67	68.9	-1.944- .444	+ .02	- .010 0	.11 .45 .22	78 Orionis
1631	-40 54 59.42	81.3	-1.984- .278	+ .01	- .013 0	.14 .57 .22	Cord 7852 *
1632	+46 44 56.94	57.6	-1.967- .650	+ .05	+ .005 0	.11 .35 .21	47 Aurigæ
1633	-41 34 38.74	80.3	-2.014- .273	+ .01	- .005 0	.14 .55 .22	
1634	- 4 42 1.11	85.0	-1.996- .429	+ .02	+ .014 0	.06 .38 .11	10 Monocerotis
1635	+20 16 31.57	72.9	-2.032- .516	+ .03	- .021 0	.05 .20 .09	
1636	-48 7 1.66	81.9	-2.043- .229	.00	- .028 0	.12 .69 .23	15 G Puppis G *
1637	+79 40 32.87	69.4	-2.002- 1.505	+ .45	+ .016- 1	.11 .36 .18	
1638	-69 55 44.69	81.8	-2.051+ .082	+ .02	+ .008 0	.11 .61 .20	41 G Doradûs $\pi^1$
1639	- 6 58 8.23	65.4	-2.093- .420	+ .02	.000 0	.10 .34 .18	11 <sup>1</sup> Monocerotis *
1640	- 6 58 13.72	84.0	-2.091- .420	+ .02	+ .002 0	.13 .75 .23	11 <sup>2</sup> Monocerotis *
1641	-32 31 1.46	76.2	-2.120- .321	+ .01	+ .016 0	.09 .41 .17	$\beta$ 753. 7 <sup>m</sup> 1'' 2 39°
1642	-32 18 24.03	76.3	-2.168- .322	+ .01	+ .009 0	.14 .64 .26	36 G Canis Maj
1643	+78 4 30.70	74.7	-2.179- 1.357	+ .38	- .001- 1	.07 .36 .15	
1644	-57 56 18.00	80.2	-2.254- .136	+ .01	- .029 0	.14 .63 .23	59 G Pictoris
1645	+15 58 24.53	72.6	-2.280- .499	+ .04	- .022 0	.11 .32 .16	19 Geminorum
1646	+32 31 33.68	71.8	-2.294- .566	+ .05	- .031 0	.11 .58 .25	
1647	+11 36 50.10	91.2	-2.252- .484	+ .03	+ .037 0	.10 .75 .17	
1648	-69 37 59.01	81.4	-2.101+ .076	+ .03	+ .197+ 1	.10 .56 .19	42 G Doradûs $\pi^2$
1649	+17 50 59.98	73.9	-2.277- .506	+ .04	+ .032 0	.12 .58 .24	{ $\Sigma$ 924
1650	+17 51 17.15	62.5	-2.289- .506	+ .04	+ .021 0	.10 .36 .20	20 <sup>2</sup> Geminorum

1631 9<sup>m</sup> 8'' 229°.1639  $\Sigma$  919. 5<sup>m</sup> 4'' 6 328°; 14<sup>m</sup> 26'' 55°.1636 Innes. 9<sup>m</sup> 1'' 134°.1640 Comp. of  $\Sigma$  919. 5<sup>m</sup> 5-6<sup>m</sup> 3'' 106°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1651	Pulk <sub>ss</sub> 1071	5.5	6	26	44.447	93.4	+ 2.7842+.0011	-.003	+ .0018 0	.13	.82	.19
1652	Pi 148	6.0	26	48.743		86.5	+ 2.3759+.0016	-.001	+ .0004 0	.12	.75	.21
1653	Br 957	6.7	27	0.825		63.9	+ 3.1850 .0000	-.006	-.0018 0	.14	.52	.28
1654	Paris 7841	5.7	27	1.748		92.8	+ 2.8838+.0008	-.003	.0000 0	.13	.80	.19
1655	L 2333 <i>m</i>	5.4	27	21.584		80.6	+ 1.4762+.0006	-.002	-.0053- 1	.16	.78	.28
1656	Pulk <sub>ss</sub> 1075	5.9	27	29.346		94.4	+ 2.9372+.0006	-.004	-.0005 0	.13	.88	.19
1657	Br 958	4.8	27	29.799		72.9	+ 3.2450-.0003	-.006	+ .0002 0	.10	.39	.17
1658	Br 947	6.9	27	36.038		67.0	+ 5.0707-.0132	-.069	-.0035- 1	.12	.56	.27
1659	L 2319	5.9	27	39.379		80.6	+ 2.1343+.0016	-.001	-.0025 0	.16	1.16	.38
1660	$\xi$ Canis Maj	4.4	27	41.384		82.6	+ 2.5003+.0015	-.001	+ .0006 0	.10	.68	.21
1661	L 2343	5.3	27	44.487		85.4	+ 1.0416-.0006	-.004	-.0046 0	.14	.70	.22
1662	L 2326	6.4	27	47.429		87.0	+ 1.9244+.0016	-.001	-.0010 0	.15	.70	.22
1663	Pi 144	5.7	27	55.433		72.8	+ 3.4073-.0011	-.009	-.0015- 1	.15	.72	.31
1664	L 2324	6.4	28	7.124		87.5	+ 2.0760+.0018	-.001	-.0015+ 1	.13	.72	.21
1665	Br 946	6.2	28	33.158		78.5	+ 5.4946-.0200	-.101	-.0272- 7	.05	.28	.10
1666	Pulk <sub>ss</sub> 1080	5.1	28	33.316		89.4	+ 3.0435+.0003	-.004	-.0023 0	.11	.72	.19
1667	Br 960	7.3	28	45.163		60.8	+ 3.5417-.0017	-.012	-.0003 0	.20	.68	.38
1668	Br 959	5.3	28	54.185		76.9	+ 3.7799-.0030	-.016	-.0004 0	.09	.44	.17
1669	L 2330	6.0	28	54.423		83.4	+ 2.2455+.0017	-.001	+ .0002 0	.12	.80	.24
1670	L 2334	5.3	28	55.694		89.2	+ 2.0552+.0015	-.001	+ .0047- 1	.15	.78	.22
1671	L 2349	5.8	28	58.119		81.4	+ 1.3986+.0007	-.002	+ .0084+ 2	.18	.88	.31
1672	Br 951	6.0	29	8.417		68.7	+ 5.1097-.0141	-.072	+ .0008 0	.14	.58	.28
1673	Pi 75	5.7	29	10.280		80.0	+ 10.3216-.1464	-1.142	-.0257- 121	.04	.32	.10
1674	Br 961	6.7	29	21.416		63.6	+ 3.2495-.0005	-.007	-.0009 0	.15	.69	.35
1675	Br 949	7.2	29	25.363		67.2	+ 5.5219-.0192	-.100	+ .0022 0	.12	.52	.26
1676	Groomb 1190	5.9	29	40.371		71.5	+ 4.1283-.0055	-.026	+ .0008 0	.15	.72	.32
1677	L 2338	6.5	29	48.571		91.4	+ 2.0175+.0015	-.001	+ .0011 0	.13	.88	.21
1678	Paris 7921	5.9	30	6.380		01.0	+ 3.0953+.0001	-.005	+ .0005 0	.10	1.05	.14
1679	Br 966	7.1	30	14.695		62.8	+ 3.4757-.0016	-.010	+ .0014 0	.16	.60	.33
1680	L 2341	5.5	30	19.144		87.2	+ 2.1029+.0018	-.001	-.0014+ 1	.11	.66	.19
1681	$\mu$ Pictoris	5.9	30	28.954		82.2	+ 0.8955-.0018	-.004	.0000- 1	.18	.70	.27
1682	Br 972	4.6	30	51.897		81.8	+ 2.5137+.0015	-.001	+ .0004 0	.07	.36	.12
1683	L 2347	5.8	30	52.850		85.2	+ 2.2239+.0017	-.001	-.0003 0	.15	.87	.26
1684	L 2350 <i>m</i>	7.1	31	5.196		86.2	+ 2.1804+.0017	-.001	-.0011 0	.15	.90	.26
1685	Br 954	7.2	31	16.564		74.0	+ 5.5600-.0208	-.104	-.0034+ 1	.09	.54	.22
1686	Pi 171	5.7	31	39.976		80.2	+ 2.9537+.0005	-.003	+ .0002 0	.16	.88	.31
1687	Br 963	5.9	31	43.796		85.5	+ 4.1606-.0064	-.026	-.0021- 1	.05	.30	.09
1688	Br 964	5.3	31	51.294		68.0	+ 4.1812-.0064	-.027	-.0013 0	.13	.50	.24
1689	L 2359 <i>m</i>	5.8	31	55.637		88.3	+ 2.0844+.0016	-.001	-.0015 0	.13	.69	.20
1690	$\gamma$ Geminorum	1.8	31	56.131		73.7	+ 3.4671-.0017	-.010	+ .0031 0	.03	.16	.07
1691	Pi 178	8.0	31	58.873		83.6	+ 2.6244+.0013	-.002	-.0031 0	.13	.84	.26
1692	Br 975	6.1	32	0.100		71.4	+ 2.6259+.0013	-.002	-.0016 0	.08	.38	.17
1693	Br 967	5.9	32	2.523		77.8	+ 3.8068-.0037	-.017	-.0012 0	.11	.54	.21
1694	Br 965	5.0	32	11.406		76.2	+ 4.2887-.0075	-.031	+ .0005- 1	.10	.40	.17
1695	$\nu$ Canis Maj	4.2	32	19.328		68.0	+ 2.6170+.0012	-.002	+ .0047 0	.08	.36	.17
1696	L 2383	4.4	32	46.362		79.2	+ 1.3220 .0000	-.003	-.0016 0	.13	.58	.22
1697	Br 970 <i>m</i>	6.1	33	14.761		69.4	+ 3.7851-.0037	-.016	-.0008 0	.10	.42	.20
1698	Br 979	4.7	33	29.523		66.5	+ 2.6379+.0012	-.001	-.0010 0	.10	.45	.22
1699	L 2375	6.0	33	38.143		85.0	+ 2.0366+.0016	-.001	-.0005 0	.15	.69	.23
1700	L 2376	6.0	6	33	45.947	89.7	+ 2.0785+.0016	-.001	-.0011 0	.12	.75	.20

1653 In a cluster.  
1669 8<sup>m</sup> prec. 1<sup>st</sup> 88, S. 6''4.

1655 Sellors. 8<sup>m</sup> 6 13'' 315°.  
1674  $\Sigma$  938. 11<sup>m</sup> 10'' 210°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
1651	-12 19 15.30	90.2	-2.351- .402	+ .02	-.017 0	.13 .77 .20	
1652	-27 41 59.81	81.8	-2.338- .343	+ .01	+.002 0	.11 .51 .18	42 G Canis Maj
1653	+ 4 55 40.04	62.1	-2.361- .460	+ .03	-.004 0	.12 .48 .26	12 Monocerotis *
1654	- 8 5 11.34	89.6	-2.381- .416	+ .02	-.022 0	.12 .69 .18	
1655	-50 10 6.53	79.8	-2.458- .212	.00	-.070+ 1	.13 .65 .24	16 G Puppis (Z) *
1656	- 5 47 42.71	90.5	-2.438- .424	+ .02	-.039 0	.12 .73 .19	
1657	+ 7 24 22.34	70.5	-2.409- .469	+ .03	-.010 0	.09 .33 .16	13 Monocerotis
1658	+56 27 53.47	54.8	-2.464- .732	+ .09	-.056 0	.10 .31 .20	9 Lyncis
1659	-35 11 16.72	72.6	-2.438- .307	+ .01	-.025 0	.17 1.24 .49	191 G Columbæ
1660	-23 20 47.85	77.4	-2.415- .361	+ .01	+.001 0	.10 .43 .17	4 Canis Maj $\xi^1$
1661	-56 47 3.78	83.5	-2.407- .149	+ .01	+.014+ 1	.11 .57 .19	61 G Pictoris
1662	-40 50 43.67	81.5	-2.437- .277	+ .01	-.012 0	.14 .56 .21	102 G Columbæ
1663	+14 13 55.21	69.9	-2.530- .492	+ .04	-.094 0	.15 .65 .30	
1664	-36 52 11.01	83.0	-2.392- .299	+ .01	+.062 0	.12 .57 .20	103 G Columbæ
1665	+61 34 8.62	72.0	-2.772- .790	+ .12	-.281+ 4	.06 .23 .11	8 Lyncis
1666	- 1 8 40.14	87.4	-2.528- .439	+ .03	-.037 0	.11 .61 .18	
1667	+19 30 21.62	56.2	-2.521- .511	+ .04	-.013 0	.16 .50 .31	22 Geminorum
1668	+28 6 0.87	71.2	-2.545- .545	+ .05	-.023 0	.08 .33 .15	49 Aurigæ
1669	-31 57 21.64	80.0	-2.521- .324	+ .01	+.001 0	.10 .61 .21	47 G Canis Maj *
1670	-37 37 13.53	83.6	-2.604- .297	+ .01	-.080- 1	.13 .59 .20	104 G Columbæ
1671	-51 45 21.05	76.6	-2.435- .202	.00	+.092- 1	.14 .65 .26	9 G Carinæ
1672	+56 56 17.38	62.4	-2.531- .738	+ .11	+.011 0	.13 .40 .23	11 Lyncis
1673	+79 40 22.28	81.6	-3.161- 1.488	+ .56	-.616+ 4	.04 .26 .08	23 H Camelopardi
1674	+ 7 39 0.64	59.5	-2.570- .460	+ .03	-.009 0	.12 .41 .24	14 Monocerotis *
1675	+61 33 38.92	64.2	-2.577- .798	+ .13	-.010 0	.11 .41 .22	10 Lyncis
1676	+38 31 34.10	65.0	-2.623- .596	+ .06	-.035 0	.14 .56 .29	
1677	-38 32 54.32	85.1	-2.624- .291	+ .01	-.024 0	.13 .67 .21	105 G Columbæ
1678	+ 0 58 9.67	99.5	-2.609- .446	+ .03	+.017 0	.10 .89 .14	
1679	+16 52 40.62	50.8	-2.674- .501	+ .04	-.036 0	.12 .42 .28	23 Geminorum
1680	-36 9 25.62	82.5	-2.550- .302	+ .01	+.094 0	.10 .49 .17	106 G Columbæ
1681	-58 40 42.17	80.2	-2.684- .128	+ .01	-.026 0	.14 .61 .23	h 3874. 8 <sup>m</sup> 2'' 236°
1682	-22 53 7.67	82.7	-2.678- .362	+ .02	+.013 0	.06 .34 .11	5 Canis Maj $\xi^2$
1683	-32 38 13.69	76.2	-2.685- .320	+ .02	+.008 0	.13 .61 .24	50 G Canis Maj
1684	-33 55 50.10	76.4	-2.662- .313	+ .01	+.049 0	.15 .73 .29	107 G Columbæ *
1685	+62 0 32.42	69.4	-2.703- .801	+ .13	+.024 0	.09 .29 .15	41 Camelopardi
1686	- 5 7 41.09	77.4	-2.772- .425	+ .03	-.011 0	.12 .61 .23	
1687	+39 28 44.46	79.7	-2.883- .599	+ .06	-.116 0	.05 .28 .10	51 Aurigæ
1688	+39 59 17.31	61.8	-2.809- .602	+ .06	-.032 0	.12 .41 .23	52 Aurigæ $\psi^3$
1689	-36 41 57.03	83.9	-2.781- .300	+ .01	+.003 0	.12 .58 .19	*
1690	+16 29 4.78	72.1	-2.831- .500	+ .04	-.047 0	.03 .15 .06	
1691	-18 34 42.39	80.4	-2.769- .377	+ .02	+.019 0	.13 .73 .25	W. H. 17'' 263°
1692	-18 34 40.17	71.8	-2.785- .378	+ .02	+.005 0	.09 .36 .17	6 Canis Maj $\nu^1$
1693	+29 4 12.01	73.8	-2.819- .548	+ .05	-.025 0	.12 .47 .21	53 Aurigæ
1694	+42 34 36.95	68.8	-2.867- .618	+ .07	-.061 0	.10 .33 .17	50 Aurigæ $\psi^2$
1695	-19 10 13.85	73.5	-2.888- .377	+ .02	-.070- 1	.09 .37 .16	7 Canis Maj $\nu^2$
1696	-52 53 38.60	80.2	-2.866- .189	+ .01	-.009 0	.10 .53 .19	11 G Carinæ N
1697	+28 21 5.17	66.0	-2.921- .545	+ .05	-.023 0	.09 .41 .20	54 Aurigæ *
1698	-18 9 3.17	70.6	-2.926- .379	+ .02	-.007 0	.11 .40 .19	8 Canis Maj $\nu^3$
1699	-38 3 44.20	79.7	-2.895- .292	+ .01	+.037 0	.13 .52 .20	110 G Columbæ
1700	-36 54 18.50	83.7	-2.928- .298	+ .01	+.015 0	.12 .56 .19	112 G Columbæ

1684  $\beta$  754. 7<sup>m</sup>9 0'9 35°.1689 h. 12<sup>m</sup> 22'' 301°;  $\beta$  755 7<sup>m</sup> 1'' 260°.1697  $\Omega$  152. 8<sup>m</sup> 0'8 38°; fixed.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1701	L 2374	5.3	6	34	2.919	83.6	+2.2463+.0017	-.001	+ .0081 + 1	.15	.82	.26
1702	$\nu$ Puppis	3.1	34	42.113		70.2	+1.8358+.0012	-.002	+ .0001 0	.09	.34	.16
1703	Pulk <sub>ss</sub> 1096	5.1	34	42.485		93.2	+2.7417+.0009	-.002	+ .0001 0	.12	.78	.18
1704	Br 977	6.8	35	2.779		64.2	+3.7838-.0040	-.016	+ .0006 0	.13	.45	.24
1705	Pi 206	7.3	35	15.092		86.5	+2.0451+.0014	-.001	+ .0011 0	.14	.72	.22
1706	S Monocerotis	Var.	35	28.259		80.9	+3.3051-.0012	-.007	+ .0002 0	.04	.26	.08
1707	Br 973	5.2	35	48.372		66.4	+4.3716-.0092	-.033	- .0036 0	.09	.36	.18
1708	L 2388	5.9	35	52.804		91.6	+2.2974+.0012	-.001	- .0012 - 2	.12	.96	.22
1709	L 2402 <sup>1</sup>	7.2	35	56.798		87.6	+1.6001+.0007	-.002	+ .0004 0	.20	.80	.26
1710	Pi 203	5.9	35	56.932		88.4	+3.0854-.0002	-.004	- .0005 0	.08	.56	.14
1711	L 2402 <sup>2</sup>	5.2	35	57.639		80.4	+1.5984+.0007	-.002	- .0012 0	.16	.69	.26
1712	Br 968	7.8	36	1.026		66.6	+5.3175-.0205	-.084	+ .0001 + 1	.12	.57	.28
1713	L 2397	7.0	36	32.493		85.3	+2.0431+.0014	-.001	+ .0041 0	.14	.70	.22
1714	Br 982	5.3	36	34.976		70.4	+3.4955-.0024	-.010	+ .0010 - 1	.10	.42	.19
1715	Pulk <sub>ss</sub> 1100	5.6	37	9.950		93.2	+2.8637+.0005	-.003	+ .0019 0	.13	.78	.19
1716	Br 971 <i>m</i>	4.9	37	24.146		65.7	+5.3129-.0214	-.084	- .0020 0	.10	.48	.24
1717	$\epsilon$ Geminorum	3.1	37	46.820		74.8	+3.6936-.0038	-.014	.0000 0	.03	.15	.06
1718	L 2411	6.3	37	58.569		84.7	+1.9542+.0014	-.001	- .0021 0	.15	.69	.23
1719	Brish 1331	6.9	38	4.253		90.3	+1.6317+.0007	-.002	- .0009 0	.15	.81	.22
1720	Br 976	5.6	38	18.080		66.7	+5.1266-.0194	-.071	+ .0036 - 1	.12	.56	.27
1721	Br 987	4.7	38	20.994		56.1	+3.3848-.0019	-.008	+ .0002 0	.14	.36	.24
1722	Br 986	5.7	38	25.274		69.2	+3.8046-.0047	-.016	- .0003 0	.11	.40	.20
1723	L 2418	7.0	38	53.303		87.5	+2.0303+.0014	-.001	- .0017 0	.13	.72	.21
1724	Br 985	5.6	39	31.940		79.6	+4.3302-.0094	-.032	+ .0007 + 2	.06	.30	.11
1725	$\xi$ Geminorum	3.3	39	40.629		80.3	+3.3686-.0022	-.008	- .0078 - 1	.03	.20	.07
1726	Radcl 1805	6.9	39	51.562		80.6	+5.0180-.0189	-.064	+ .0078 - 2	.11	.68	.23
1727	Radcl 1806	6.7	39	52.160		80.6	+5.0180-.0189	-.064	+ .0078 - 2	.11	.68	.23
1728	Br 984	5.4	40	2.135		63.6	+4.5799-.0128	-.043	- .0009 0	.15	.54	.29
1729	L 2430	6.8	40	3.025		82.8	+2.0016+.0014	-.001	- .0015 0	.16	.86	.28
1730	Br 974	5.1	40	31.541		74.8	+6.2787-.0412	-.169	+ .0014 0	.09	.42	.17
1731	L 2429	5.3	40	40.181		85.8	+2.2825+.0015	-.001	- .0004 0	.14	.75	.23
1732	$\alpha$ Canis Maj <i>c.g</i>	-2.0	40	44.613		71.0	+2.6441-.0008	-.002	- .0366 - 9			
1733	Br 991	6.1	41	5.188		82.3	+3.2729-.0014	-.007	- .0005 0	.13	.39	.17
1734	Paris 8170	5.4	41	26.703		97.5	+2.7259+.0008	-.002	- .0018 0	.14	1.11	.20
1735	L 2437	6.1	41	38.420		87.7	+2.2439+.0008	-.001	- .0173 - 3	.12	.78	.21
1736	L 2438	6.1	41	42.448		84.9	+2.2883+.0015	-.001	+ .0009 0	.15	.80	.25
1737	Br 993	5.0	41	54.043		78.4	+3.2590-.0014	-.007	- .0014 0	.10	.54	.20
1738	Pulk <sub>ss</sub> 1112	5.8	41	55.017		95.3	+2.8398+.0004	-.003	- .0008 0	.13	.88	.19
1739	Br 996	5.3	42	17.433		72.4	+2.7377+.0008	-.002	+ .0007 0	.13	.54	.24
1740	Br 995	4.8	42	38.805		88.0	+3.1298-.0008	-.005	- .0004 0	.04	.54	.13
1741	Br 1001	6.2	42	44.511		75.6	+2.5702+.0011	-.001	- .0005 0	.15	.68	.28
1742	L 2447	6.3	42	46.354		86.9	+2.0581+.0014	-.001	- .0004 0	.15	.75	.23
1743	Pulk <sub>ss</sub> 1118	5.5	42	50.533		94.5	+2.8646+.0003	-.003	- .0024 0	.13	.90	.19
1744	Br 980	5.1	42	55.418		80.6	+6.4958-.0487	-.191	+ .0019 0	.06	.33	.11
1745	Pulk <sub>ss</sub> 1113	6.0	43	10.366		93.8	+3.9123-.0066	-.018	- .0035 0	.13	.86	.19
1746	Paris 3198	5.9	43	14.907		97.5	+3.0427-.0004	-.004	- .0020 0	.13	.94	.18
1747	L 2471	5.9	43	36.396		88.4	+1.3721-.0007	-.002	- .0021 0	.20	.92	.28
1748	Br 992	5.2	43	41.734		63.2	+4.2481-.0103	-.029	- .0016 - 2	.11	.51	.26
1749	L 2455	5.4	43	56.080		81.6	+2.0525+.0013	-.001	- .0015 0	.10	.48	.17
1750	L 2469	7.3	6	44	1.545	87.2	+1.6298+.0004	-.002	- .0010 0	.11	.69	.19

1706 4<sup>m</sup>9 to 5<sup>m</sup>4  $\Sigma$  950. 9<sup>m</sup> 3" 212°.  
 1716  $\Sigma$  948. 6<sup>m</sup>3 1'6 119°; 7<sup>m</sup>6 8'4 306°.

1709-11 Dunlop. 13" 318°.  
 1718 9<sup>m</sup>5 fols. 1<sup>st</sup>09, S. 5'3.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10	Remarks.
	" ' "		" "	"	"	" " "	
1701	-32 15 17.26	76.1	- 2.907-.324	+ .01	+ .060- 1	.14 .67 .27	59 G Canis Maj
1702	-43 6 29.85	70.2	- 3.044-.263	+ .01	- .020 0	.08 .32 .15	
1703	-14 3 22.40	88.6	- 3.035-.394	+ .02	- .011 0	.12 .67 .19	
1704	+28 17 20.29	63.8	- 3.069-.544	+ .06	- .015 0	.12 .53 .27	25 Geminorum
1705	-37 54 21.38	86.0	- 3.099-.294	+ .01	- .028 0	.14 .63 .21	
1706	+ 9 59 17.68	79.6	- 3.097-.475	+ .04	- .007 0	.04 .26 .09	15 Monocerotis S*
1707	+44 37 13.96	53.0	- 3.158-.628	+ .08	- .039 0	.10 .36 .23	55 Aurigæ $\psi^4$
1708	-30 22 25.81	87.2	- 3.317-.329	+ .02	- .192 0	.14 1.08 .28	63 G Canis Maj
1709	-48 7 40.48	88.0	- 3.137-.229	+ .01	- .006 0	.17 .75 .24	*
1710	+ 0 35 18.80	84.9	- 3.135-.443	+ .04	- .003 0	.09 .47 .15	
1711	-48 7 50.07	81.6	- 3.125-.228	+ .01	+ .008 0	.13 .67 .23	21 G Puppis*
1712	+59 32 48.87	58.7	- 3.114-.764	+ .14	+ .024 0	.10 .37 .22	$\Sigma$ 946. 9 <sup>m</sup> 4 <sup>"</sup> 130°
1713	-38 3 56.06	78.6	- 3.210-.293	+ .01	- .027- 1	.12 .50 .20	22 G Puppis
1714	+17 44 34.93	60.5	- 3.284-.502	+ .05	- .098 0	.08 .29 .17	26 Geminorum
1715	- 9 4 13.84	89.0	- 3.261-.411	+ .03	- .024 0	.12 .65 .18	
1716	+59 32 34.68	56.3	- 3.256-.762	+ .14	+ .001 0	.09 .29 .18	12 Lyncis *
1717	+25 13 48.48	69.3	- 3.310-.530	+ .06	- .020 0	.03 .16 .07	
1718	-40 15 16.35	78.1	- 3.308-.279	+ .01	- .001 0	.13 .51 .21	23 G Puppis*
1719	-47 31 35.64	90.0	- 3.304-.233	+ .01	+ .011 0	.13 .71 .19	24 G Puppis
1720	+57 16 22.94	58.8	- 3.377-.736	+ .13	- .042 0	.11 .36 .21	13 Lyncis
1721	+13 19 43.56	60.2	- 3.415-.485	+ .05	- .076 0	.12 .42 .24	30 Geminorum
1722	+29 4 19.50	55.8	- 3.374-.546	+ .07	- .029 0	.09 .29 .18	28 Geminorum
1723	-38 18 3.25	80.5	- 3.391-.290	+ .01	- .006 0	.12 .52 .19	26 G Puppis*
1724	+43 40 37.14	71.4	- 3.283-.620	+ .09	+ .158 0	.06 .23 .11	56 Aurigæ $\psi^5$
1725	+13 0 12.39	78.2	- 3.654-.481	+ .05	- .201+ 1	.04 .22 .08	
1726	+55 48 47.95	72.4	- 3.577-.720	+ .13	- .108- 1	.10 .41 .18	} $\Sigma$ 958. 5 <sup>"</sup> .1 257°
1727	+55 48 49.05	72.4	- 3.578-.720	+ .13	- .108- 1	.10 .41 .18	
1728	+48 53 42.76	52.8	- 3.482-.656	+ .11	+ .002 0	.12 .40 .26	57 Aurigæ $\psi^6$
1729	-39 5 31.49	78.0	- 3.499-.286	+ .01	- .014 0	.13 .63 .24	27 G Puppis
1730	+67 40 56.16	68.9	- 3.521-.900	+ .23	+ .005 0	.08 .26 .13	42 Camelopardi
1731	-30 58 3.98	79.0	- 3.525-.326	+ .02	+ .014 0	.12 .59 .22	67 G Canis Maj
1732	-16 34 43.66	69.3	- 4.751-.372	+ .02	- 1.206+ 5		Sirius. See Appendix
1733	+ 8 41 35.29	78.6	- 3.578-.468	+ .04	- .003 0	.12 .35 .16	16 Monocerotis
1734	-14 41 24.79	94.4	- 3.637-.389	+ .03	- .031 0	.14 .99 .21	
1735	-31 40 47.15	83.4	- 3.951-.318	+ .02	- .329+ 2	.11 .58 .19	72 G Canis Maj
1736	-30 50 37.57	75.8	- 3.627-.326	+ .02	+ .001 0	.13 .58 .24	74 G Canis Maj*
1737	+ 8 8 42.85	71.9	- 3.659-.465	+ .04	- .014 0	.09 .37 .17	17 Monocerotis
1738	-10 0 1.78	91.3	- 3.647-.405	+ .03	- .001 0	.12 .71 .18	
1739	-14 19 7.39	73.2	- 3.671-.391	+ .03	+ .007 0	.11 .46 .20	11 Canis Maj
1740	+ 2 31 17.74	83.2	- 3.734-.447	+ .04	- .025 0	.05 .28 .09	18 Monocerotis
1741	-20 54 26.36	75.5	- 3.719-.366	+ .02	- .002 0	.14 .50 .22	12 Canis Maj ( $\rho$ )
1742	-37 40 5.86	82.3	- 3.733-.293	+ .01	- .013 0	.13 .57 .20	30 G Puppis
1743	- 8 53 21.64	92.3	- 3.728-.408	+ .03	- .002 0	.12 .79 .18	
1744	+69 0 16.64	72.6	- 3.724-.929	+ .27	+ .009 0	.06 .23 .11	43 Camelopardi
1745	+32 43 12.09	91.4	- 3.806-.558	+ .07	- .052 0	.12 .75 .18	
1746	- 1 12 26.70	96.4	- 3.795-.434	+ .04	- .034 0	.12 .88 .17	
1747	-52 18 7.12	84.8	- 3.805-.194	+ .01	- .014 0	.15 .71 .23	14 G Carinæ
1748	+41 53 56.42	53.0	- 3.934-.606	+ .09	- .135 0	.11 .40 .25	58 Aurigæ $\psi^7$
1749	-37 49 9.51	75.4	- 3.847-.292	+ .01	- .028 0	.10 .44 .18	31 G Puppis $\alpha$
1750	-47 41 43.67	86.9	- 3.830-.232	+ .01	- .003 0	.10 .64 .18	

1723 Dunlop. 8<sup>m</sup> 8<sup>"</sup> 277°.1736 h 3891. 8<sup>m</sup> 5<sup>"</sup> 220°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1751	Br 997	6.0	6	44	4.469	64.3	+3.4551-.0028	-.009	-.0013 0	.12	.54	.27
1752	Lal 13143	5.9	44	14.225	99.0	64.3	+3.0235-.0003	-.004	+ .0006 0	.14	1.17	.19
1753	Br 988 <i>m</i>	5.5	44	16.033	77.7	64.3	+5.3050-.0257	-.081	.0000- 1	.09	.38	.15
1754	Pulk <sub>85</sub> 1121 <i>m</i>	5.4	44	25.696	95.1	64.3	+2.7199+.0007	-.002	-.0003 0	.13	.86	.18
1755	L 2478	5.4	44	28.556	87.4	64.3	+1.4432-.0006	-.002	-.0009- 1	.20	1.41	.37
1756	Br 1002	6.0	44	46.854	81.4	64.3	+3.3874-.0024	-.008	-.0004 0	.12	.39	.16
1757	L 2490	5.8	45	21.764	83.6	64.3	+1.1700-.0019	-.003	-.0008 0	.14	.80	.25
1758	Pi 201	4.9	45	29.161	78.2	64.3	+8.8203-.1254	-.602	+ .0250- 4	.05	.28	.10
1759	Br 1004	5.4	45	33.458	67.0	64.3	+3.5978-.0041	-.012	-.0007 0	.11	.44	.22
1760	Bruss 2819	5.9	45	55.742	92.8	64.3	+3.6449-.0045	-.013	-.0029 0	.12	.80	.18
1761	$\kappa$ Canis Maj	3.8	46	6.355	78.6	64.3	+2.2407+.0014	-.001	-.0008 0	.08	.38	.14
1762	Br 999	6.3	46	8.687	64.3	64.3	+4.1328-.0093	-.025	+ .0005 0	.12	.58	.29
1763	$\theta$ Geminorum	3.6	46	11.932	78.2	64.3	+3.9588-.0075	-.020	+ .0005 0	.04	.22	.08
1764	Br 1000	6.6	46	21.959	74.1	64.3	+4.1187-.0096	-.024	+ .0026- 2	.11	.50	.21
1765	L 2479	6.1	46	36.581	81.4	64.3	+2.2671+.0014	-.001	-.0003 0	.15	.72	.26
1766	Pi 262	7.4	46	39.625	87.4	64.3	+2.2670+.0014	-.001	-.0006 0	.18	.96	.28
1767	L 2492	5.1	47	5.320	81.2	64.3	+1.6917+.0015	-.002	-.0015+ 5	.18	.69	.27
1768	Br 1005	6.6	47	5.805	69.7	64.3	+4.1172-.0094	-.024	-.0006 0	.11	.54	.24
1769	$\alpha$ Pictoris	3.2	47	9.907	75.6	64.3	+0.6176-.0050	-.005	-.0114+ 7	.09	.40	.17
1770	L 2486	5.0	47	14.163	82.3	64.3	+2.1829+.0014	-.001	+ .0012 0	.11	.52	.18
1771	Pi 257	6.0	47	23.020	73.7	64.3	+3.2658-.0019	-.006	-.0021 0	.20	.72	.33
1772	$\tau$ Puppis	2.7	47	27.297	79.4	64.3	+1.4886-.0006	-.002	+ .0026- 1	.11	.60	.22
1773	L 2511	4.4	47	41.007	85.4	64.3	+1.3050-.0012	-.003	+ .0002 0	.15	.66	.22
1774	L 2493	6.2	48	10.837	85.7	64.3	+2.1144+.0012	-.001	-.0046- 1	.12	.64	.20
1775	$\zeta$ Mensæ	5.8	48	22.338	76.1	64.3	+4.9210-.1546	+ .355	-.0061+ 17	.07	.66	.23
1776	Br 998 <i>m</i>	4.5	48	37.153	76.1	64.3	+5.2096-.0269	-.075	+ .0007- 3	.05	.24	.09
1777	Paris 8336	5.8	48	56.648	94.7	64.3	+2.6222+.0009	-.001	-.0027 0	.14	.84	.19
1778	Br 1009	4.8	49	0.177	62.7	64.3	+3.3862-.0029	-.008	+ .0050- 1	.11	.40	.22
1779	Radcl 1841	6.0	49	8.469	94.0	64.3	+4.4461-.0141	-.036	+ .0024 0	.14	.68	.18
1780	Br 1007	5.9	49	9.705	61.8	64.3	+3.6922-.0054	-.013	-.0030 0	.13	.50	.27
1781	Br 1012	4.7	49	13.498	76.8	64.3	+2.5947+.0010	-.001	+ .0002 0	.11	.51	.20
1782	Paris 5347	5.6	49	19.719	95.3	64.3	+3.0501-.0008	-.004	+ .0006 0	.13	.86	.18
1783	$\theta$ Canis Maj	4.3	49	32.637	73.6	64.3	+2.7876+.0003	-.002	-.0093 0	.04	.22	.09
1784	Pi 278	6.3	49	35.147	82.2	64.3	+2.3885+.0006	-.001	+ .0220- 3	.10	.60	.20
1785	Br 1014	4.1	49	58.950	71.8	64.3	+2.4889+.0012	-.001	-.0009 0	.10	.36	.17
1786	Br 1006	5.0	50	19.291	73.2	64.3	+4.3846-.0136	-.033	-.0024 0	.09	.33	.15
1787	Br 1016	6.0	50	43.662	72.7	64.3	+2.5910+.0009	-.001	+ .0004 0	.15	.57	.26
1788	Pulk <sub>85</sub> 1134	6.0	50	55.653	95.7	64.3	+3.3025-.0024	-.006	-.0017 0	.14	.78	.18
1789	Br 1018	4.7	51	17.294	74.1	64.3	+2.6018+.0010	-.001	+ .0040 0	.09	.39	.17
1790	L 2530	6.2	51	17.784	91.7	64.3	+1.8903+.0010	-.001	+ .0012 0	.13	.78	.19
1791	$\mu$ Canis Maj	5.3	51	31.724	64.2	64.3	+2.7501+.0005	-.002	+ .0005 0	.08	.36	.18
1792	Grw <sub>72</sub> 674	5.5	51	34.480	95.3	64.3	+2.5228+.0011	-.001	-.0016 0	.14	.84	.18
1793	$\iota$ Canis Maj	4.4	51	40.647	62.3	64.3	+2.6759+.0007	-.001	-.0001 0	.07	.39	.20
1794	Br 1010	6.3	52	14.097	67.3	64.3	+4.0935-.0105	-.023	-.0029- 1	.11	.39	.20
1795	$\iota$ Volantis	5.6	52	35.631	86.9	64.3	-0.6747-.0272	+ .003	-.0017+ 2	.15	.82	.24
1796	Br 1013	6.4	52	37.632	71.1	64.3	+3.7011-.0059	-.014	-.0120+ 1	.08	.33	.15
1797	Pi 273	7.0	53	1.916	85.7	64.3	+4.9304-.0236	-.057	+ .0006- 1	.12	.48	.16
1798	Br 1015	6.6	53	17.476	67.6	64.3	+3.7069-.0061	-.013	-.0011 0	.12	.42	.22
1799	Pi 300	5.6	53	26.345	86.0	64.3	+2.4762+.0013	-.001	-.0036+ 1	.14	.69	.22
1800	L 2557	4.9	6	53	36.210	77.3	+1.5975-.0001	-.002	-.0008 0	.16	.80	.31

1753  $\Sigma$  963.  $7^M 1 0'' 5 76^\circ$ , slow.1776  $\Sigma$  159.  $5^M 1-6^M 2 0'' 7 12^\circ$ .1762  $\Sigma$  974.  $10^M 22'' 224^\circ$ .1778  $\Sigma$  982.  $7^M 6'' 160^\circ$ , slow.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
1751	+16 18 59.27	59.1	-3.845- .492	+ .05	-.013 0	.12	.49	.28	33 Geminorum
1752	- 2 9 32.58	95.6	-3.817- .431	+ .04	+.029 0	.13	.89	.18	
1753	+59 34 1.28	68.5	-3.895- .757	+ .17	-.047 0	.08	.25	.13	14 Lyncis*
1754	-15 1 55.24	90.9	-3.881- .387	+ .03	-.019 0	.13	.75	.19	A. Clark. 7 <sup>m</sup> 0 1" 290°
1755	-51 9 9.92	86.8	-3.946- .205	+ .01	-.080 0	.16	1.29	.34	15 G Carinae
1756	+13 31 41.03	76.8	-3.904- .482	+ .05	-.011 0	.11	.35	.16	35 Geminorum
1757	-55 25 44.53	80.8	-3.947- .166	+ .01	-.005 0	.12	.60	.21	17 G Carinae
1758	+77 6 17.44	78.6	-3.967- 1.263	+ .59	-.014- 4	.05	.25	.09	24 H Camelopardi
1759	+21 52 44.75	63.1	-4.000- .512	+ .06	-.041 0	.10	.40	.21	36 Geminorum <i>d</i>
1760	+23 43 11.83	94.1	-4.007- .519	+ .07	-.016 0	.12	.90	.19	
1761	-32 23 34.55	75.9	-4.005- .318	+ .02	+.001 0	.08	.39	.16	
1762	+38 59 18.52	60.6	-4.004- .589	+ .09	+.005 0	.10	.42	.23	59 Aurigæ *
1763	+34 4 54.59	76.6	-4.068- .564	+ .08	-.054 0	.04	.23	.09	
1764	+38 33 46.14	61.2	-4.210- .587	+ .09	-.182 0	.11	.43	.24	60 Aurigæ $\psi^s$
1765	-31 35 22.18	73.3	-4.038- .322	+ .02	+.011 0	.13	.60	.26	} 83 G Canis Maj
1766	-31 35 4.48	80.6	-4.050- .322	+ .02	+.003 0	.19	.75	.29	
1767	-46 30 29.06	81.4	-3.733- .240	+ .01	+.357 0	.14	.63	.23	38 G Puppis
1768	+38 37 39.24	63.1	-4.118- .586	+ .09	-.027 0	.11	.39	.21	61 Aurigæ
1769	-61 50 1.87	77.8	-3.837- .085	+ .02	+.260+ 2	.09	.46	.18	
1770	-34 14 56.90	73.1	-4.100- .310	+ .02	+.003 0	.11	.49	.21	37 G Puppis
1771	+ 8 30 7.06	70.4	-4.148- .464	+ .05	-.033 0	.17	.60	.29	
1772	-50 29 43.72	79.9	-4.207- .211	+ .01	-.086 0	.10	.55	.19	
1773	-53 30 19.48	79.8	-4.116- .184	+ .01	+.025 0	.13	.58	.22	18 G Carinae <i>A</i>
1774	-36 6 29.56	82.4	-4.253- .299	+ .01	-.070+ 1	.11	.52	.18	40 G Puppis
1775	-80 42 29.43	76.7	-4.128+ .704	+ .46	+.072+ 1	.06	.56	.20	
1776	+58 33 13.90	72.8	-4.355- .741	+ .17	-.134 0	.05	.19	.09	15 Lyncis*
1777	-18 54 34.92	92.9	-4.249- .371	+ .03	.000 0	.15	.87	.21	
1778	+13 18 17.49	57.8	-4.339- .481	+ .06	-.085- 1	.09	.33	.19	38 Geminorum <i>e</i> *
1779	+46 24 3.44	90.8	-4.260- .632	+ .12	+.006 0	.13	.58	.17	Aurigæ $\psi^s$
1780	+25 30 2.71	58.0	-4.254- .524	+ .07	+.013 0	.10	.41	.24	37 Geminorum
1781	-20 6 2.01	77.7	-4.266- .368	+ .02	+.007 0	.10	.41	.17	15 Canis Maj
1782	- 1 0 6.73	93.1	-4.290- .433	+ .04	-.008 0	.13	.77	.18	
1783	-11 54 47.94	76.2	-4.315- .394	+ .03	-.015+ 1	.05	.28	.11	
1784	-28 24 12.08	78.9	-4.741- .341	+ .02	-.437- 3	.11	.53	.20	90 G Canis Maj
1785	-24 3 32.32	75.8	-4.330- .352	+ .02	+.007 0	.10	.35	.16	92 Canis Maj 0 <sup>1</sup>
1786	+45 13 26.96	65.8	-4.368- .622	+ .11	-.002 0	.09	.28	.15	Aurigæ $\psi$ 1 <sup>9</sup> 16 Lyncis
1787	-20 16 38.26	74.0	-4.411- .367	+ .03	-.010 0	.13	.48	.22	17 Canis Maj
1788	+10 5 9.82	91.8	-4.429- .468	+ .05	-.011 0	.14	.60	.18	
1789	-20 0 32.44	77.2	-4.413- .369	+ .03	+.036- 1	.09	.43	.17	19 Canis Maj ( $\pi$ )*
1790	-42 14 19.91	84.4	-4.433- .267	+ .02	+.017 0	.11	.51	.17	44 G Puppis
1791	-13 54 50.85	65.9	-4.470- .389	+ .04	-.001 0	.08	.35	.18	Σ 997. 8 <sup>m</sup> 3" 340°
1792	-22 48 44.27	96.1	-4.465- .356	+ .03	+.008 0	.15	1.15	.22	
1793	-16 55 28.48	63.4	-4.471- .378	+ .03	+.011 0	.08	.34	.18	
1794	+38 11 22.41	59.1	-4.658- .579	+ .10	-.128 0	.11	.40	.23	62 Aurigæ
1795	-70 50 19.60	83.4	-4.532+ .098	+ .06	+.028 0	.11	.64	.20	
1796	+26 12 44.87	68.1	-4.477- .522	+ .08	+.086+ 2	.06	.29	.14	39 Geminorum
1797	+54 59 41.66	78.7	-4.635- .698	+ .16	-.037 0	.11	.37	.16	
1798	+26 2 59.73	61.2	-4.634- .524	+ .08	-.014 0	.11	.40	.22	40 Geminorum
1799	-24 30 0.57	77.8	-4.539- .349	+ .03	+.093 0	.12	.51	.20	102 G Canis Maj
1800	-48 35 21.17	74.4	-4.642- .224	+ .02	+.004 0	.13	.61	.25	47 G Puppis

1789 W. H. 10<sup>m</sup> 11" 18°.1792 Br 1019 *a*, or Br 3236. 97 G Canis Maj.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
1801	51 H Cephei	5.4	6	53	44.29	71.5	+29.657 <sup>s</sup> -2.634 <sup>s</sup>	"	-.047 <sup>s</sup> -80	.03	.15	.06
1802	Pi 303	5.8	54	30.02	1	87.9	+2.4577 <sup>s</sup> +.0012 <sup>s</sup>	-.001	-.0013 <sup>s</sup> 0	.08	.64	.16
1803	Br 1020	6.2	54	31.00	4	65.0	+3.4492 <sup>s</sup> -.0038 <sup>s</sup>	-.009	-.0009 <sup>s</sup> 0	.12	.40	.22
1804	$\epsilon$ Canis Maj	1.5	54	41.75	6	70.4	+2.3575 <sup>s</sup> +.0013 <sup>s</sup>	.000	+.0001 <sup>s</sup> 0	.03	.20	.08
1805	L 2554	5.2	54	45.45	0	81.6	+2.1957 <sup>s</sup> +.0013 <sup>s</sup>	-.001	-.0016 <sup>s</sup> 0	.12	.72	.24
1806	$\omega$ Geminorum	5.4	56	19.23	3	67.7	+3.6589 <sup>s</sup> -.0060 <sup>s</sup>	-.012	-.0003 <sup>s</sup> 0	.11	.33	.18
1807	L 2570	6.0	56	59.28	7	91.9	+2.4644 <sup>s</sup> +.0011 <sup>s</sup>	-.001	-.0018 <sup>s</sup> 0	.12	.75	.18
1808	Pulk <sub>ss</sub> 1144	5.5	57	1.97	8	94.6	+2.0463 <sup>s</sup> -.0005 <sup>s</sup>	-.003	+.0005 <sup>s</sup> 0	.13	.87	.19
1809	Pi 305	6.1	57	9.13	0	85.5	+3.8173 <sup>s</sup> -.0091 <sup>s</sup>	-.015	+.0121 <sup>s</sup> -7	.07	.45	.13
1810	$\sigma$ Canis Maj	3.8	57	44.12	7	81.2	+2.3894 <sup>s</sup> +.0012 <sup>s</sup>	.000	-.0008 <sup>s</sup> 0	.07	.32	.12
1811	Pi 313	6.2	57	49.80	6	85.5	+3.2819 <sup>s</sup> -.0027 <sup>s</sup>	-.006	-.0020 <sup>s</sup> 0	.12	.48	.16
1812	Br 1026	5.0	57	56.91	3	81.1	+2.9796 <sup>s</sup> -.0007 <sup>s</sup>	-.003	-.0001 <sup>s</sup> 0	.08	.38	.13
1813	Pulk <sub>ss</sub> 1146	5.3	58	5.63	7	91.4	+3.3255 <sup>s</sup> -.0032 <sup>s</sup>	-.006	-.0006 <sup>s</sup> 0	.15	.78	.21
1814	Pi 311	8.3	58	9.61	5	89.8	+3.5545 <sup>s</sup> -.0052 <sup>s</sup>	-.010	-.0078 <sup>s</sup> 0	.10	.60	.16
1815	$\zeta$ Geminorum	Var.	58	10.71	0	75.1	+3.5613 <sup>s</sup> -.0053 <sup>s</sup>	-.010	-.0003 <sup>s</sup> 0	.03	.16	.06
1816	L 2601	5.1	58	25.78	0	81.4	+1.4583 <sup>s</sup> -.0011 <sup>s</sup>	-.002	-.0021 <sup>s</sup> 0	.18	.72	.27
1817	Br 1029	3.0	58	50.92	5	79.8	+2.5048 <sup>s</sup> +.0010 <sup>s</sup>	-.001	-.0005 <sup>s</sup> 0	.08	.32	.12
1818	Lal 13706	6.1	59	9.78	5	99.4	+2.9550 <sup>s</sup> -.0007 <sup>s</sup>	-.003	-.0003 <sup>s</sup> 0	.15	1.12	.19
1819	$\gamma$ Canis Maj	4.1	59	14.05	2	72.8	+2.7143 <sup>s</sup> +.0004 <sup>s</sup>	-.001	-.0001 <sup>s</sup> 0	.03	.21	.09
1820	Br 1025	6.2	59	17.19	5	66.5	+3.6151 <sup>s</sup> -.0060 <sup>s</sup>	-.011	.0000 <sup>s</sup> 0	.13	.42	.22
1821	L 2621	6.2	59	32.14	0	83.5	+0.9309 <sup>s</sup> -.0049 <sup>s</sup>	-.005	-.0088 <sup>s</sup> +2	.14	.80	.25
1822	Pi 316	5.9	6	59	36.14	74.0	+3.9598 <sup>s</sup> -.0102 <sup>s</sup>	-.019	-.0044 <sup>s</sup> 0	.13	.75	.30
1823	L 2646	5.1	7	0	0.90	86.9	-0.0940 <sup>s</sup> -.0180 <sup>s</sup>	-.005	-.0064 <sup>s</sup> +10	.18	.82	.26
1824	Br 1022	7.0	0	40.38	7	72.7	+5.3937 <sup>s</sup> -.0380 <sup>s</sup>	-.083	-.0009 <sup>s</sup> -1	.08	.38	.16
1825	Pi 310	8.0	0	47.27	9	80.5	+5.3893 <sup>s</sup> -.0379 <sup>s</sup>	-.082	-.0003 <sup>s</sup> -1	.15	.70	.26
1826	L 2607	5.4	0	52.57	4	78.6	+1.9015 <sup>s</sup> +.0009 <sup>s</sup>	-.001	-.0019 <sup>s</sup> +1	.14	.60	.23
1827	L 2608	5.9	0	53.30	8	87.2	+1.8389 <sup>s</sup> +.0014 <sup>s</sup>	-.001	-.0110 <sup>s</sup> +4	.13	.69	.20
1828	Pi 337	7.4	0	54.91	3	89.8	+1.8391 <sup>s</sup> +.0014 <sup>s</sup>	-.001	-.0107 <sup>s</sup> +4	.18	.86	.25
1829	L 2624	5.2	1	17.63	4	86.6	+1.5593 <sup>s</sup> -.0003 <sup>s</sup>	-.002	-.0072 <sup>s</sup> +2	.15	.92	.26
1830	L 2640 <i>m</i>	5.8	1	42.98	2	81.7	+0.9252 <sup>s</sup> -.0058 <sup>s</sup>	-.005	-.0006 <sup>s</sup> 0	.20	1.04	.35
1831	Dpt 818 <i>m</i>	5.4	1	58.94	8	88.5	+2.8175 <sup>s</sup> -.0001 <sup>s</sup>	-.002	-.0012 <sup>s</sup> 0	.12	.60	.17
1832	Pulk <sub>ss</sub> 1157	6.0	2	25.13	2	91.7	+3.2456 <sup>s</sup> -.0028 <sup>s</sup>	-.006	+.0009 <sup>s</sup> 0	.12	.86	.20
1833	L 2642	5.4	2	26.42	4	84.9	+1.1189 <sup>s</sup> -.0040 <sup>s</sup>	-.004	-.0015 <sup>s</sup> 0	.13	.70	.22
1834	L 2625	6.3	2	36.29	3	86.4	+2.0586 <sup>s</sup> +.0011 <sup>s</sup>	-.001	.0000 <sup>s</sup> 0	.14	.87	.25
1835	Br 1030	5.7	2	37.95	2	69.0	+3.4428 <sup>s</sup> -.0047 <sup>s</sup>	-.008	-.0007 <sup>s</sup> -1	.09	.36	.17
1836	L 2631	7.1	2	47.17	0	86.1	+1.9036 <sup>s</sup> +.0007 <sup>s</sup>	-.001	-.0032 <sup>s</sup> 0	.14	.88	.26
1837	$\theta$ Mensæ	5.6	2	53.85	9	92.0	-3.7266 <sup>s</sup> -.1452 <sup>s</sup>	+.138	-.0058 <sup>s</sup> -1	.13	.92	.21
1838	L 2617	6.0	3	11.73	6	94.2	+2.5070 <sup>s</sup> +.0010 <sup>s</sup>	-.001	-.0013 <sup>s</sup> 0	.13	.98	.20
1839	$\delta$ Canis Maj	1.8	4	19.53	3	76.4	+2.4391 <sup>s</sup> +.0011 <sup>s</sup>	-.001	-.0004 <sup>s</sup> 0	.04	.22	.09
1840	$\tau$ Geminorum	4.5	4	46.52	5	68.7	+3.8237 <sup>s</sup> -.0093 <sup>s</sup>	-.015	-.0019 <sup>s</sup> 0	.08	.33	.16
1841	Br 1032	5.1	4	46.67	7	81.8	+4.1338 <sup>s</sup> -.0137 <sup>s</sup>	-.023	+.0041 <sup>s</sup> 0	.05	.30	.10
1842	L 2651	6.1	4	49.43	9	87.4	+1.4375 <sup>s</sup> -.0014 <sup>s</sup>	-.002	-.0033 <sup>s</sup> +1	.13	.70	.20
1843	Br 1034	5.9	5	10.98	6	72.1	+3.7252 <sup>s</sup> -.0081 <sup>s</sup>	-.013	-.0013 <sup>s</sup> 0	.08	.38	.16
1844	Br 1041	5.1	5	15.68	4	76.0	+2.9808 <sup>s</sup> -.0008 <sup>s</sup>	-.003	.0000 <sup>s</sup> +1	.07	.33	.13
1845	L 2649	4.9	5	29.60	7	80.8	+2.0144 <sup>s</sup> +.0010 <sup>s</sup>	-.001	-.0011 <sup>s</sup> 0	.10	.45	.17
1846	Groomb 1272	5.8	5	35.66	9	80.6	+4.6916 <sup>s</sup> -.0242 <sup>s</sup>	-.044	+.0020 <sup>s</sup> 0	.12	.38	.17
1847	Pi 13	5.9	5	35.74	8	83.8	+2.4709 <sup>s</sup> +.0010 <sup>s</sup>	-.001	-.0017 <sup>s</sup> 0	.13	.66	.21
1848	Br 1045	5.5	6	17.00	9	68.2	+3.0678 <sup>s</sup> -.0017 <sup>s</sup>	-.004	-.0015 <sup>s</sup> 0	.14	.48	.24
1849	L 2647	5.8	6	18.30	7	92.9	+2.4095 <sup>s</sup> +.0011 <sup>s</sup>	.000	-.0009 <sup>s</sup> 0	.13	.87	.20
1850	Br 1038	6.1	7	6	21.83	71.0	+3.6491 <sup>s</sup> -.0073 <sup>s</sup>	-.012	-.0014 <sup>s</sup> 0	.10	.39	.18

1830 Dunlop. 6<sup>M</sup>3-7<sup>M</sup>1 2''2 178°.1831  $\beta$  328. 5<sup>M</sup>4-8<sup>M</sup>0 0''5 120°; 9<sup>M</sup>5 17'' 350°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
1801	+87 12 20.38	75.6	-4.696- .4197		-.038+ 7	.02	.14	.05	Pi 21 Groomb 1141
1802	-25 16 42.09	86.3	-4.708- .346	+.03	+.014 0	.08	.52	.15	105 G Canis Maj
1803	+16 13 1.53	64.1	-4.736- .487	+.06	-.012 0	.12	.38	.21	41 Geminorum
1804	-28 50 9.28	71.3	-4.740- .332	+.03	-.001 0	.04	.23	.10	Cape 9 <sup>m</sup> 8" 161°
1805	-33 58 32.88	72.5	-4.721- .309	+.02	+.023 0	.11	.59	.25	49 G Puppis <i>t</i>
1806	+24 21 28.52	67.8	-4.891- .516	+.08	-.014 0	.09	.34	.17	
1807	-25 4 26.59	87.9	-4.915- .346	+.03	+.019 0	.14	.81	.23	113 G Canis Maj
1808	-5 34 46.18	91.0	-4.943- .414	+.05	-.006 0	.12	.71	.18	
1809	+29 30 17.73	81.7	-5.771- .539	+.09	-.823- 2	.07	.38	.13	
1810	-27 47 29.51	79.6	-4.996- .335	+.03	+.001 0	.07	.34	.13	
1811	+9 17 1.20	77.5	-4.997- .461	+.06	+.009 0	.11	.38	.17	
1812	-4 5 38.86	76.7	-5.007- .418	+.05	+.008 0	.08	.36	.14	19 Monocerotis
1813	+11 5 53.62	82.5	-5.059- .467	+.06	-.032 0	.14	.61	.22	
1814	+20 44 35.52	79.4	-4.989- .498	+.08	+.044+ 1	.09	.38	.14	
1815	+20 43 1.27	69.0	-5.042- .500	+.08	-.008 0	.03	.17	.08	3 <sup>m</sup> 6 to 4 <sup>m</sup> 5
1816	-51 15 35.87	80.6	-5.055- .203	+.02	+.001 0	.14	.63	.23	23 G Carinæ
1817	-23 41 13.76	82.2	-5.097- .351	+.03	-.006 0	.07	.33	.12	24 Canis Maj $\alpha^2$
1818	-5 10 33.86	98.3	-5.113- .414	+.05	+.005 0	.14	1.09	.19	
1819	-15 29 7.77	72.9	-5.138- .380	+.04	-.014 0	.04	.28	.11	
1820	+22 47 13.82	72.8	-5.149- .507	+.09	-.021 0	.09	.36	.16	44 Geminorum
1821	-58 47 57.36	82.0	-5.033- .128	+.02	+.116+ 1	.12	.64	.22	24 G Carinæ
1822	+34 37 33.72	70.8	-5.223- .555	+.11	-.068+ 1	.10	.57	.24	
1823	-67 46 44.30	82.8	-4.950+ .016	+.05	+.240+ 1	.14	.63	.22	6 G Volantis
1824	+60 56 58.40	64.4	-5.295- .757	+.23	-.050 0	.08	.28	.15	17 Lyncis
1825	+60 54 4.41	75.3	-5.297- .756	+.23	-.042 0	.14	.56	.24	
1826	-42 11 21.98	77.9	-5.202- .265	+.02	+.060 0	.12	.55	.21	59 G Puppis C
1827	-43 28 8.97	84.0	-4.894- .255	+.02	+.370+ 2	.10	.52	.17	60 G Puppis
1828	-43 28 19.84	81.4	-4.904- .255	+.02	+.362+ 2	.14	.57	.22	21" 122°
1829	-49 26 15.73	82.6	-5.154- .216	+.02	+.144+ 1	.11	.63	.20	61 G Puppis H
1830	-59 1 42.89	79.0	-5.337- .128	+.02	-.004 0	.15	.84	.30	26 G Carinæ*
1831	-11 8 23.59	81.7	-5.372- .393	+.04	-.016 0	.10	.44	.16	*
1832	+7 37 41.73	91.2	-5.418- .454	+.06	-.025 0	.12	.82	.20	
1833	-56 35 52.15	84.4	-5.392- .155	+.02	+.002 0	.11	.61	.19	27 G Carinæ
1834	-38 13 44.54	85.4	-5.402- .287	+.02	+.006 0	.12	.69	.21	63 G Puppis
1835	+16 5 25.41	69.0	-5.522- .481	-.07	-.111 0	.08	.32	.15	45 Geminorum*
1836	-42 10 26.53	80.7	-5.415- .264	+.02	+.009 0	.13	.64	.23	64 G Puppis
1837	-79 16 35.90	91.4	-5.436+ .525	+.40	-.003+ 1	.11	.90	.20	
1838	-23 41 4.01	89.8	-5.451- .349	+.03	+.007 0	.14	.94	.24	122 G Canis Maj
1839	-26 14 3.78	76.8	-5.551- .339	+.03	+.002 0	.05	.25	.10	
1840	+30 24 33.12	66.8	-5.638- .532	+.10	-.047 0	.07	.30	.15	$\beta$ 1009 11 <sup>m</sup> 2" 180°
1841	+39 29 1.35	72.8	-5.594- .577	+.13	-.003- 1	.05	.23	.10	63 Aurigæ
1842	-51 48 40.99	84.4	-5.542- .198	+.02	+.053 0	.10	.53	.17	28 G Carinæ (P)
1843	+27 1 15.20	68.9	-5.674- .519	+.10	-.049 0	.07	.32	.15	47 Geminorum
1844	-4 4 51.33	71.1	-5.414- .414	+.05	+.217 0	.07	.31	.14	20 Monocerotis
1845	-39 29 41.93	77.2	-5.648- .279	+.02	+.003 0	.11	.47	.19	67 G Puppis A
1846	+51 35 40.28	75.6	-5.657- .654	+.18	+.003 0	.12	.35	.17	
1847	-25 4 9.55	80.0	-5.664- .343	+.03	-.004 0	.11	.52	.19	126 G Canis Maj
1848	-0 8 12.42	73.9	-5.721- .426	+.06	-.004 0	.11	.47	.20	21 Monocerotis
1849	-27 19 40.87	91.2	-5.698- .334	+.03	+.021 0	.15	1.06	.25	128 G Canis Maj
1850	+24 17 45.06	69.6	-5.776- .507	+.10	-.052 0	.08	.36	.17	48 Geminorum



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.			
										$\alpha$ Ep.	100 $\mu$	$\alpha$ 10	
		<sup>M</sup>	<sup>h</sup>	<sup>m</sup>	<sup>s</sup>		<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
1851	Pi 285	6.3	7	6	24.221	74.0	+ 11.5837— .3776	— 1.405	+ .0033— 8	.07	.36	.15	
1852	Br 1039	7.2		6	40.394	85.4	+ 3.6944— .0078	— .012	.0000 0	.12	.40	.16	
1853	Br 1047	4.2		6	45.486	72.2	+ 3.0652— .0016	— .004	+ .0002 0	.07	.28	.13	
1854	Br 1031	5.4		7	11.049	65.0	+ 5.2605— .0399	— .072	— .0115— 6	.09	.32	.16	
1855	Paris 8843	6.0		7	22.809	95.8	+ 2.5879+ .0007	— .001	— .0005 0	.15	.98	.20	
1856	Br 1046	5.3		7	37.756	74.1	+ 3.4478— .0051	— .008	+ .0008 0	.06	.33	.13	
1857	L 2673	5.1		8	6.339	83.7	+ 1.6118— .0001	— .002	— .0023+ 3	.18	1.06	.33	
1858	Br 1053	6.1		8	6.716	78.0	+ 2.4547+ .0010	— .001	— .0006 0	.11	.46	.19	
1859	Br 1048	7.2		8	20.440	84.3	+ 3.6647— .0077	— .012	— .0001 0	.12	.51	.18	
1860	Groomb 1281	5.7		8	24.663	65.0	+ 4.4661— .0209	— .034	+ .0038— 2	.15	.66	.33	
1861	Br 1049	6.2		8	35.060	73.0	+ 3.6731— .0079	— .012	+ .0037— 1	.10	.48	.20	
1862	L 2668	6.1		8	52.694	91.0	+ 2.1301+ .0011	— .001	— .0019 0	.13	.72	.19	
1863	L 2672	5.5		8	57.087	85.7	+ 1.9866+ .0008	— .001	— .0021 0	.11	.57	.18	
1864	BD+12° 1469	6.0		8	58.161	01.2	+ 3.3463— .0042	— .007	— .0041 0	.11	.90	.14	
1865	Pi 29	5.6		9	5.693	83.4	+ 3.1475— .0024	— .004	+ .0020 0	.16	.90	.29	
1866	$\gamma^1$ Volantis	5.3		9	33.547	83.9	— 0.4924— .0324	— .007	+ .0040+ 5	.18	.84	.28	
1867	$\gamma^2$ Volantis	3.8		9	35.892	76.2	— 0.4916— .0323	— .007	+ .0050+ 6	.09	.48	.18	
1868	Br 1050	6.1		9	42.483	79.6	+ 3.7510— .0090	— .014	— .0014 0	.08	.34	.13	
1869	L 2687	4.5		9	42.539	75.1	+ 1.7100 .0000	— .001	— .0143+ 1	.13	.57	.23	
1870	L 2676	6.9		9	56.347	84.0	+ 2.3082+ .0012	.000	— .0009 0	.14	.78	.25	
1871	Pi 292	5.3	10	3.203	70.5	+ 12.8945— .5213	— 1.961	+ .0029— 18	.05	.21	.10		
1872	Br 1059	4.7	10	10.650	71.0	+ 2.4453+ .0010	.000	— .0005 0	.10	.34	.17		
1873	Br 1055	6.8	10	12.325	63.3	+ 3.0715— .0019	— .003	— .0011 0	.15	.54	.29		
1874	L 2690	5.1	10	13.870	81.4	+ 1.7958— .0001	— .001	— .0020— 2	.13	.64	.23		
1875	L 2691	Var.	10	29.162	82.7	+ 1.8309+ .0011	— .001	+ .0093+ 4	.16	.90	.30		
1876	Br 1040	8.0	10	31.648	72.1	+ 5.2283— .0396	— .069	+ .0104— 1	.13	.54	.24		
1877	$\omega$ Canis Maj	3.8	10	45.267	78.8	+ 2.4345+ .0010	.000	— .0003 0	.14	.48	.20		
1878	Br 1061	6.0	10	48.727	84.9	+ 2.4249+ .0010	.000	— .0026 0	.14	.81	.25		
1879	Arm 1649	4.9	10	56.142	82.7	+ 4.5698— .0237	— .037	— .0005 0	.12	.75	.24		
1880	Br 1052	6.0	11	5.062	80.3	+ 4.1800— .0160	— .024	— .0010 0	.05	.27	.09		
1881	Br 1043	7.1	11	12.461	71.8	+ 5.2293— .0402	— .068	+ .0024— 1	.11	.57	.24		
1882	L 2688	5.5	11	28.880	89.6	+ 2.3205+ .0012	.000	— .0022 0	.14	.86	.22		
1883	Paris 8971	5.6	11	42.697	97.4	+ 2.7169+ .0002	— .001	— .0050 0	.14	1.05	.19		
1884	L 2711	4.9	11	52.712	83.6	+ 1.6566— .0005	— .002	+ .0010 0	.16	.84	.28		
1885	L 2710	6.0	11	53.682	83.8	+ 1.7211— .0002	— .001	— .0034 0	.20	1.10	.35		
1886	$\lambda$ Geminorum	3.5	12	20.797	79.6	+ 3.4507— .0057	— .008	— .0033 0	.03	.16	.06		
1887	Lal 14200	5.1	12	23.892	92.4	+ 2.5294+ .0008	.000	— .0001 0	.12	.82	.19		
1888	Lal 14202	6.9	12	25.612	94.5	+ 2.5264+ .0009	.000	— .0032 0	.13	.96	.20		
1889	Pi 59	4.8	12	34.488	85.2	+ 2.4039+ .0011	.000	— .0015 0	.13	.64	.21		
1890	L 2713	5.9	13	4.355	88.4	+ 2.0735+ .0010	.000	— .0023 0	.15	.80	.23		
1891	L 2714	5.2	13	15.825	88.0	+ 2.1361+ .0011	.000	— .0004 0	.13	.82	.22		
1892	L 2732	5.6	13	22.388	88.2	+ 1.7301— .0001	— .001	— .0009 0	.20	.88	.27		
1893	Grw $\omega$ 564	8.0	13	25.282	79.3	+ 3.5891— .0073	— .010	— .0011 0	.10	.42	.16		
1894	Br 1051	6.6	13	31.755	72.8	+ 5.2779— .0428	— .070	+ .0011 0	.10	.39	.18		
1895	Cord 9286	8.2	13	33.614	95.7	+ 2.1169+ .0011	.000	— .0021 0	.18	1.23	.25		
1896	$\pi$ Puppis	2.5	13	36.678	75.9	+ 2.1189+ .0011	.000	— .0007 0	.07	.28	.12		
1897	Groomb 1295	5.8	14	3.207	70.2	+ 4.3546— .0202	— .028	— .0034 0	.16	.64	.30		
1898	$\delta$ Geminorum	3.4	14	9.098	68.8	+ 3.5873— .0074	— .010	— .0013 0	.02	.16	.07		
1899	Br 1067	5.0	14	30.530	82.8	+ 2.4975+ .0008	.000	— .0010 0	.09	.46	.16		
1900	Br 1035	7.3	7	14	32.446	70.8	+ 7.2948— .1228	— .253	+ .0083 0	.11	.45	.21	

1861 Hough 343. 12<sup>m</sup> 23" 263°.  
1873  $\beta$  1268. 11<sup>m</sup> 4" 310°; O $\Sigma$  169?

1862 8<sup>m</sup> 3" 65°.  
1875 3<sup>m</sup> 4 to 6<sup>m</sup> 2.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
1851	+81 26 21.62	71.6	-5.755-1.617	+1.58	-.028 0	.07	.33	.14	Groomb 1255
1852	+25 54 56.08	79.5	-5.768- .513	+ .10	-.018 0	.11	.35	.15	49 Geminorum
1853	- 0 19 37.38	72.7	-5.746- .426	+ .06	+.011 0	.07	.29	.13	22 Monocerotis (8)
1854	+59 48 56.53	60.7	-6.051- .730	+ .24	-.258+ 2	.07	.23	.13	18 Lyncis
1855	-20 43 2.29	93.6	-5.782- .358	+ .03	+.027 0	.15	.99	.22	130 G Canis Maj
1856	+16 19 43.17	67.3	-5.880- .478	+ .08	-.050 0	.06	.24	.12	51 Geminorum
1857	-48 46 17.48	79.7	-5.675- .222	+ .02	+.195 0	.14	.75	.27	68 G Puppis
1858	-25 46 30.37	79.0	-5.868- .340	+ .03	+.002 0	.12	.54	.21	26 Canis Maj
1859	+24 52 55.42	83.0	-5.906- .508	+ .10	-.016 0	.11	.54	.18	
1860	+47 25 3.17	64.1	-6.076- .620	+ .16	-.180 0	.12	.51	.26	
1861	+25 3 31.35	69.3	-6.002- .510	+ .10	-.092 0	.09	.45	.20	52 Geminorum*
1862	-36 22 32.45	87.9	-5.939- .294	+ .02	-.004 0	.12	.69	.19	69 G Puppis*
1863	-40 19 46.93	77.0	-5.964- .274	+ .02	-.023 0	.11	.48	.19	70 G Puppis <i>E</i>
1864	+12 17 16.31	98.8	-5.954- .463	+ .07	-.012+ 1	.12	.83	.15	BB VI 3 obsns. 1863
1865	+ 3 16 58.25	77.8	-5.953- .436	+ .06	.000 0	.14	.65	.25	
1866	-70 20 4.73	82.0	-5.905+ .070	+ .08	+.086- 1	.15	.67	.24	} Dunlop. 13" 300°
1867	-70 20 11.31	80.2	-5.901+ .070	+ .08	+.094- 1	.08	.54	.18	
1868	+28 4 16.98	76.0	-6.013- .519	+ .10	-.009 0	.07	.31	.13	53 Geminorum
1869	-46 35 32.30	76.4	-5.915- .233	+ .02	+.089+ 2	.10	.51	.20	71 G Puppis <i>I</i>
1870	-30 54 43.05	74.6	-6.026- .318	+ .03	-.003 0	.13	.56	.24	137 G Canis Maj
1871	+82 36 16.00	71.0	-6.078-1.790	+2.11	-.045 0	.04	.20	.09	25 H Camelopardi
1872	-26 10 48.08	75.4	-6.037- .337	+ .03	+.006 0	.09	.36	.16	27 Canis Maj
1873	+ 0 0 44.41	68.8	-6.055- .424	+ .06	-.010 0	.10	.43	.20	24 Monocerotis*
1874	-45 0 32.17	79.6	-6.158- .247	+ .02	-.111 0	.10	.51	.18	72 G Puppis <i>L</i> <sup>1</sup>
1875	-44 28 36.93	77.7	-5.754- .253	+ .02	+.315- 1	.13	.67	.25	73 G Puppis <i>L</i> <sup>2</sup> *
1876	+59 18 17.69	66.6	-6.100- .726	+ .24	-.028- 2	.12	.39	.21	45 Camelopardi
1877	-26 35 56.92	77.8	-6.099- .336	+ .03	-.008 0	.13	.54	.22	28 Canis Maj, 140 G, $\omega$
1878	-26 51 47.62	83.0	-6.127- .334	+ .03	-.031 0	.13	1.02	.30	141 G Canis Maj
1879	+49 38 34.51	80.3	-6.114- .632	+ .18	-.008 0	.11	.64	.22	
1880	+41 3 39.22	70.5	-6.119- .578	+ .14	.000 0	.06	.25	.12	64 Aurigæ
1881	+59 26 1.98	65.3	-6.160- .724	+ .24	-.031 0	.10	.31	.17	46 Camelopardi
1882	-30 30 41.56	83.2	-6.144- .319	+ .03	+.008 0	.14	.84	.26	142 G Canis Maj
1883	-15 24 30.87	94.2	-6.159- .374	+ .04	+.012+ 1	.14	.95	.21	
1884	-48 5 48.75	87.3	-6.172- .227	+ .02	+.013 0	.14	.97	.26	78 G Puppis
1885	-46 40 28.58	77.1	-6.207- .236	+ .02	-.021 0	.15	.69	.27	77 G Puppis
1886	+16 43 14.83	74.9	-6.272- .475	+ .08	-.048 0	.03	.17	.07	} 1061. 10 <sup>m</sup> 9".5 33°
1887	-23 8 16.42	91.3	-6.227- .348	+ .04	+.001 0	.12	.85	.20	
1888	-23 8 3.32	92.8	-6.188- .347	+ .04	+.042 0	.13	.94	.21	145 G Canis Maj*
1889	-27 42 15.46	82.0	-6.202- .330	+ .03	+.040 0	.12	.57	.20	146 G Canis Maj
1890	-38 8 26.22	84.0	-6.287- .284	+ .03	-.003 0	.12	.63	.20	147 G Canis Maj
1891	-36 24 49.87	79.2	-6.314- .293	+ .03	-.014 0	.12	.58	.22	79 G Puppis
1892	-46 35 49.10	80.8	-6.287- .237	+ .02	+.022 0	.15	.60	.23	80 G Puppis
1893	+22 12 24.73	82.3	-6.306- .494	+ .09	+.007 0	.11	.47	.17	81 G Puppis
1894	+60 5 13.71	62.8	-6.315- .728	+ .26	+.007 0	.09	.26	.15	47 Camelopardi
1895	-36 56 2.13	90.2	-6.300- .290	+ .03	+.024 0	.17	.83	.24	
1896	-36 55 4.47	72.4	-6.331- .290	+ .03	-.002 0	.07	.28	.12	
1897	+45 24 47.03	60.8	-6.360- .599	+ .16	+.005 0	.13	.47	.26	
1898	+22 9 59.39	65.5	-6.390- .493	+ .10	-.017 0	.03	.14	.07	Σ 1066. 8 <sup>m</sup> 5 7" 207°
1899	-24 22 34.41	83.5	-6.411- .342	+ .04	-.008 0	.08	.41	.14	
1900	+73 16 26.02	68.6	-6.400-1.006	+ .59	+.006- 1	.09	.32	.16	29 Canis Maj
									See Grw <sub>40</sub> 655*

1887-8 h 3945. 27" 60°.

1900-4 Σ 1051. 31" 82°; 9<sup>m</sup> 1" 4 279°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m		s	s		s	s	"	"	"
1901	Br 1069	4.5	7	14	33.705	79.5	+ 2.4874	+ .0009	.000	-.0006	0	.10	.52	.19
1902	Groomb 1297	8.0		14	35.206	70.7	+ 4.5966	-.0258	-.038	-.0029	- 1	.12	.51	.24
1903	Br 1057	7.8		14	36.780	73.5	+ 4.5986	-.0258	-.037	-.0009	- 1	.09	.38	.16
1904	Grw <sub>40</sub> 655	7.8		14	39.878	74.8	+ 7.2967	-.1231	-.253	+ .0107	- 1	.12	.51	.22
1905	Br 1054	7.2		14	41.303	78.6	+ 4.9130	-.0335	-.051	+ .0003	- 1	.12	.58	.22
1906	Br 1056	5.9		14	42.585	84.9	+ 4.9126	-.0335	-.051	+ .0002	- 1	.05	.30	.06
1907	L 2733	4.8		14	45.080	89.6	+ 2.1332	+ .0010	.000	-.0006	0	.12	.64	.18
1908	Yarn 3030	5.6		14	46.918	94.0	+ 2.4414	+ .0010	.000	-.0024	0	.13	.94	.20
1909	R Canis Maj	Var.		14	56.626	97.9	+ 2.7173	+ .0001	-.001	+ .0128	- 1	.13	1.35	.21
1910	v Puppis	5.3	15		4.843	89.4	+ 2.1331	+ .0010	.000	-.0009	0	.14	.75	.21
1911	L 2739	5.4	15		8.920	86.4	+ 2.0477	+ .0009	.000	+ .0009	0	.15	.72	.23
1912	Br 1063	5.3	15		21.805	69.2	+ 4.0171	-.0143	-.019	-.0066	0	.11	.52	.24
1913	L 2738	6.8	15		30.389	88.8	+ 2.2329	+ .0011	.000	-.0011	0	.14	.96	.25
1914	Br 1065	5.5	16		2.848	64.5	+ 3.5438	-.0072	-.009	-.0043	0	.10	.32	.17
1915	Paris 9019	6.0	16		23.056	98.2	+ 2.7528	.0000	-.001	-.0006	0	.15	.90	.18
1916	Pi 334	6.8	16		27.335	74.3	+ 11.1372	-.3960	-1.122	+ .0012	- 1	.07	.33	.14
1917	$\delta$ Volantis	3.9	16		52.801	72.0	- 0.0195	-.0253	-.010	-.0035	- 1	.10	.45	.20
1918	Pi 88	6.4	16		57.937	80.4	+ 2.4647	+ .0010	.000	-.0003	0	.13	.60	.22
1919	Br 1064	5.5	17		13.048	65.6	+ 4.1637	-.0173	-.022	+ .0001	0	.11	.45	.23
1920	Pi 85	6.5	17		14.332	86.0	+ 2.8792	-.0008	-.001	+ .0019	0	.09	.90	.23
1921	Br 1068	5.2	17		22.758	68.2	+ 3.6618	-.0089	-.011	-.0051	0	.10	.40	.20
1922	Br 1070	6.5	17		27.634	70.9	+ 3.6096	-.0082	-.010	-.0015	0	.12	.48	.22
1923	Pi 86	6.1	17		31.136	81.6	+ 2.9444	-.0012	-.002	.0000	0	.12	.78	.25
1924	Paris 9057	5.0	17		49.261	96.8	+ 2.6422	+ .0004	.000	-.0005	0	.14	1.06	.20
1925	L 2783	5.6	18		12.448	87.4	+ 1.4625	-.0022	-.003	-.0039	0	.20	1.42	.38
1926	Br 1071	5.9	18		20.165	64.8	+ 3.7381	-.0101	-.012	+ .0010	0	.11	.42	.22
1927	L 2798	7.1	18		23.751	86.1	+ 1.1942	-.0046	-.004	-.0040	+ 1	.18	.82	.27
1928	Br 1066	4.6	19		10.290	76.3	+ 4.5394	-.0261	-.034	-.0006	- 1	.07	.34	.14
1929	L 2769	5.6	19		11.306	83.4	+ 2.2949	+ .0011	.000	+ .0001	0	.13	.75	.24
1930	Br 1074	5.4	19		24.888	71.6	+ 3.3350	-.0049	-.006	-.0014	0	.10	.40	.19
1931	$\epsilon$ Geminorum	3.9	19		31.007	76.4	+ 3.7319	-.0104	-.012	-.0086	0	.03	.16	.06
1932	L 2773	5.6	19		43.255	83.7	+ 2.2867	+ .0011	.000	-.0003	0	.12	.64	.21
1933	Pi 103	7.0	19		55.206	81.0	+ 2.3699	+ .0011	.000	-.0035	0	.11	.66	.22
1934	$\eta$ Canis Maj	2.3	20		8.387	75.0	+ 2.3726	+ .0011	.000	-.0007	0	.06	.26	.11
1935	Pi 100	5.3	20		8.957	80.9	+ 2.7099	.0000	-.001	-.0023	0	.16	.88	.30
1936	$\epsilon$ Canis Min	5.1	20		10.954	62.8	+ 3.2813	-.0044	-.005	-.0005	0	.13	.44	.24
1937	Pi 67	6.0	20		28.631	72.0	+ 6.2855	-.0854	-.138	-.0005	- 2	.04	.27	.11
1938	Lal 14451	6.0	20		32.744	98.8	+ 2.7558	-.0002	-.001	-.0140	0	.15	1.10	.19
1939	L 2793	5.5	20		53.944	85.2	+ 2.2986	+ .0011	.000	-.0019	0	.13	.70	.22
1940	Pi 97	6.8	20		55.709	77.7	+ 3.5503	-.0080	-.010	-.0220	0	.18	.78	.31
1941	Br 1076	6.1	21		2.672	71.3	+ 3.5393	-.0076	-.009	-.0007	0	.13	.44	.21
1942	L 2792	6.0	21		16.569	94.4	+ 2.4863	+ .0009	.000	-.0011	0	.13	.96	.20
1943	Pi 92	5.9	21		24.527	67.5	+ 4.4840	-.0256	-.032	+ .0010	- 1	.15	.52	.27
1944	$\beta$ Canis Min	2.9	21		43.697	75.9	+ 3.2559	-.0043	-.005	-.0034	0	.03	.18	.07
1945	Br 1077	5.4	21		48.257	61.5	+ 3.5656	-.0082	-.010	-.0038	- 1	.09	.39	.21
1946	L 2802	6.5	21		52.647	86.7	+ 2.3040	+ .0011	.000	+ .0001	0	.15	.84	.25
1947	L 3274	6.7	22		1.53	81.2	- 19.815	-.2648		+ .003	+ 16	.06	.50	.15
1948	Br 1073	5.5	22		20.505	65.4	+ 4.5692	-.0279	-.034	+ .0122	- 2	.12	.54	.27
1949	L 2827	6.9	22		26.168	85.8	+ 1.0347	-.0066	-.005	-.0124	+ 2	.18	.84	.27
1950	$\eta$ Canis Min	5.4	7	22	39.402	80.4	+ 3.2289	-.0040	-.004	-.0002	0	.12	.34	.16

1901 h 3948. 10<sup>m</sup> 8" 90°; Cluster here.1902-3  $\Sigma$  1065. 15" 253°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
1901	-24 46 18.41	78.6	-6.401- .341	+ .04	+ .006 0	.09	.49	.18	30 Canis Maj*
1902	+50 20 7.68	72.8	-6.469- .632	+ .19	-.059 0	.12	.60	.25	20 <sup>1</sup> Lyncis*
1903	+50 20 12.38	63.8	-6.459- .632	+ .19	-.047 0	.08	.28	.15	20 <sup>2</sup> Lyncis*
1904	+73 16 30.10	79.0	-6.413- 1.007	+ .59	+ .003- 2	.11	.46	.18	See Br 1035
1905	+55 28 22.03	80.0	-6.447- .676	+ .22	-.029 0	.09	.49	.17	} $\Sigma$ 1062. 14" 314° 19 Lyncis
1906	+55 28 11.52	72.5	-6.458- .676	+ .22	-.038 0	.06	.19	.09	
1907	-36 33 6.12	84.1	-6.436- .292	+ .03	-.013 0	.11	.52	.17	83 G Puppis v <sup>1</sup>
1908	-26 24 10.67	91.1	-6.420- .334	+ .04	+ .006 0	.14	1.05	.24	154 G Canis Maj
1909	-16 12 26.57	94.2	-6.543- .374	+ .04	-.104- 2	.13	1.33	.25	Cord 9325. 5 <sup>m</sup> 9 to 6 <sup>m</sup> 7
1910	-36 33 35.05	82.2	-6.463- .292	+ .03	-.013 0	.13	.53	.20	84 G Puppis v <sup>2</sup>
1911	-39 1 38.73	79.1	-6.457- .280	+ .03	-.001 0	.12	.54	.21	87 G Puppis F
1912	+36 56 54.99	63.2	-6.515- .551	+ .13	-.041+ 1	.10	.38	.20	65 Aurigæ*
1913	-33 32 33.32	79.7	-6.499- .305	+ .03	-.013 0	.15	.85	.30	86 G Puppis
1914	+20 37 56.54	66.5	-6.564- .484	+ .10	-.033+ 1	.08	.27	.14	56 Geminorum
1915	-14 10 23.23	97.4	-6.543- .376	+ .05	+ .015 0	.16	1.05	.21	156 G Canis Maj
1916	+18 5 59.11	73.2	-6.567- 1.532	+ 1.65	-.003 0	.07	.32	.14	Groomb 1278
1917	-67 46 26.97	77.4	-6.605+ .006	+ .06	-.006 0	.09	.49	.18	
1918	-25 42 13.25	76.2	-6.575- .336	+ .04	+ .031 0	.12	.54	.22	159 G Canis Maj
1919	+40 51 54.08	56.6	-6.651- .570	+ .15	-.024 0	.12	.43	.26	66 Aurigæ
1920	- 8 47 25.01	83.7	-6.631- .394	+ .06	-.002 0	.08	.67	.19	
1921	+25 14 33.86	65.1	-6.664- .500	+ .11	-.023+ 1	.09	.37	.19	57 Geminorum A
1922	+23 8 15.70	66.0	-6.693- .493	+ .11	-.046 0	.12	.45	.23	58 Geminorum
1923	- 5 47 32.34	78.0	-6.672- .402	+ .06	-.020 0	.10	.57	.21	
1924	-18 49 33.23	94.6	-6.681- .360	+ .04	-.004 0	.14	1.00	.21	160 G Canis Maj
1925	-51 53 48.31	87.1	-6.713- .198	+ .02	-.004 0	.16	1.29	.34	40 G Carinæ
1926	+27 49 52.28	65.1	-6.705- .511	+ .12	+ .015 0	.11	.44	.23	59 Geminorum
1927	-56 6 26.31	81.1	-6.681- .160	+ .02	+ .043+ 1	.14	.63	.23	41 G Carinæ
1928	+49 24 36.18	72.4	-6.837- .620	+ .20	-.049 0	.07	.28	.13	21 Lyncis
1929	-31 43 51.65	77.2	-6.793- .312	+ .03	-.003 0	.11	.57	.22	161 G Canis Maj
1930	+11 51 55.27	70.9	-6.826- .454	+ .08	-.018 0	.09	.37	.17	1 Canis Min
1931	+27 59 48.65	72.9	-6.907- .508	+ .12	-.090+ 1	.04	.18	.08	
1932	-32 0 28.94	79.8	-6.825- .311	+ .03	+ .008 0	.12	.54	.20	163 G Canis Maj
1933	-29 5 41.58	82.7	-6.843- .321	+ .03	+ .007 0	.12	.67	.22	
1934	-29 6 28.75	73.4	-6.864- .322	+ .03	+ .004 0	.06	.27	.12	
1935	-16 0 17.85	77.6	-6.879- .368	+ .05	-.010 0	.13	.60	.23	165 G Canis Maj
1936	+ 9 28 24.06	58.6	-6.890- .446	+ .08	-.019 0	.13	.47	.28	
1937	+68 40 12.20	76.4	-6.940- .857	+ .44	-.044 0	.04	.24	.09	
1938	-13 33 18.01	96.9	-6.896- .372	+ .05	+ .005+ 2	.15	1.10	.21	169 G Canis Maj
1939	-31 36 44.42	77.3	-6.924- .311	+ .03	+ .006 0	.12	.55	.22	171 G Canis Maj
1940	+21 44 7.64	71.8	-6.975- .480	+ .10	-.042+ 3	.16	.65	.30	
1941	+20 27 26.21	68.9	-6.966- .481	+ .10	-.024 0	.12	.43	.21	61 Geminorum
1942	-25 1 10.83	88.2	-6.951- .337	+ .04	+ .010 0	.13	.87	.23	173 G Canis Maj
1943	+48 23 14.03	60.6	-7.030- .610	+ .19	-.058 0	.14	.47	.27	$\beta$ 758. 10 <sup>m</sup> 17" 91°
1944	+ 8 29 27.19	75.7	-7.041- .441	+ .08	-.043 0	.03	.18	.07	
1945	+21 38 59.25	58.2	-7.127- .484	+ .10	-.122 0	.07	.29	.17	63 Geminorum
1946	-31 32 23.08	76.1	-7.005- .312	+ .03	+ .005 0	.12	.53	.22	174 G Canis Maj
1947	-86 52 11.36	82.4	-7.015+ 2.709		+ .007 0	.05	.49	.14	7 G Octantis
1948	+49 52 44.70	54.3	-7.134- .622	+ .20	-.085- 2	.10	.31	.20	22 Lyncis
1949	-58 17 52.09	84.0	-6.921- .136	+ .02	+ .135+ 2	.15	.67	.23	43 G Carinæ
1950	+ 7 8 44.72	78.8	-7.119- .437	+ .08	-.045 0	.10	.37	.15	$\beta$ 21. 11 <sup>m</sup> 4" 26°

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.			
			<sup>M</sup>	<sup>h</sup>	<sup>m</sup>					$\alpha$ Ep.	100 $\mu$	$\alpha$ 10	
1951	Paris 9166	5.8	7	22	40.596	94.2	+2.6737+.0002	.000	-.0005	0	.11	.94	.19
1952	$\rho$ Geminorum	4.3		22	40.818	81.0	+3.8649-.0124	-.015	+.0117+	1	.05	.30	.10
1953	$\gamma$ Canis Min	4.5		22	43.110	77.0	+3.2689-.0044	-.005	-.0043	0	.10	.54	.21
1954	Paris 9170	5.7		22	45.068	95.9	+2.5448+.0007	.000	+.0002	0	.12	1.04	.19
1955	L 2810	6.2		22	59.370	84.2	+2.2280+.0011	.000	-.0033	0	.15	.84	.26
1956	Br 1080	5.2		23	6.703	63.7	+3.7434-.0110	-.012	-.0024	0	.14	.52	.28
1957	Pi 116 <i>m</i>	6.1		23	9.596	79.8	+2.8210-.0006	-.001	-.0005	0	.08	.45	.16
1958	Lal 14578	5.9		23	27.853	98.0	+2.5522+.0007	.000	+.0011	0	.15	1.11	.20
1959	Br 1082	5.1		23	35.600	69.8	+3.7375-.0110	-.012	-.0021	0	.11	.42	.20
1960	L 2829	5.2		23	47.914	83.5	+1.5405-.0018	-.002	-.0006	0	.14	.60	.21
1961	Pi 122	5.7		24	0.955	83.6	+2.3804+.0011	.000	-.0017	0	.14	.57	.20
1962	Br 1085	4.9		24	13.847	71.2	+3.3425-.0054	-.006	+.0002	0	.09	.27	.14
1963	BD-1° 1738	6.0		24	15.341	96.7	+3.0360-.0022	-.003	+.0007	0	.12	1.12	.19
1964	Pi 120	6.2		24	34.153	77.8	+2.9158-.0010	-.001	+.0042+	1	.18	.72	.29
1965	Dpt 887	6.2		24	48.810	89.9	+2.7306-.0005	-.001	-.0129-	2	.12	.62	.17
1966	L 2821	7.0		25	0.701	82.3	+2.3046+.0011	.000	-.0002	0	.13	.78	.25
1967	L 2823	6.1		25	13.269	81.8	+2.3146+.0011	.000	-.0022	0	.13	.75	.25
1968	SD-22° 1897	4.9		25	36.542	96.3	+2.5497+.0007	.000	+.0008	0	.13	1.23	.21
1969	L 2832	5.7		25	38.003	85.9	+2.0783+.0009	.000	-.0006	0	.14	.72	.22
1970	<i>U</i> Monocerotis	Var.		26	1.270	95.7	+2.8603-.0009	-.001	-.0025	0	.13	1.02	.19
1971	Pulk <sub>ss</sub> 1217	5.7		26	2.483	92.5	+3.4622-.0071	-.008	+.0026	0	.11	.68	.16
1972	$\sigma$ Puppis	2.9		26	3.528	76.3	+1.9031+.0008	.000	-.0058+	2	.10	.48	.19
1973	L 2834	4.8		26	49.301	80.9	+2.3309+.0011	.000	-.0027	0	.12	.70	.24
1974	Br 1088	5.3		26	54.316	68.0	+3.1182-.0031	-.003	-.0002	0	.14	.56	.27
1975	Br 1089	7.0		27	42.650	68.2	+3.4242-.0067	-.006	-.0002	0	.14	.66	.31
1976	L 2850	6.9		27	51.313	83.4	+1.5747-.0016	-.002	+.0006	0	.15	.94	.29
1977	Br 1091	5.3		27	54.099	71.1	+3.4277-.0068	-.006	-.0010	0	.07	.38	.16
1978	Br 1092	5.8		27	57.145	85.8	+3.1477-.0034	-.003	-.0005	0	.13	.42	.16
1979	$\alpha$ Geminorum <i>m</i>			28	13.079	71.1	+3.8361-.0137	-.014	-.0135-	1			
1980	Groomb 1330	6.2		28	38.718	90.9	+4.9047-.0402	-.046	-.0009-	1	.14	.56	.17
1981	Br 1090 <i>m</i>	5.6		28	47.547	79.6	+3.8186-.0131	-.013	-.0025	0	.11	.40	.17
1982	SD-19° 1944	6.0		28	55.222	98.9	+2.6438+.0002	.000	+.0022	0	.16	1.24	.22
1983	L 2844	6.0		28	58.918	86.1	+2.5078+.0008	.000	-.0009	0	.15	1.00	.28
1984	Br 1095	6.0		29	1.100	81.0	+3.1493-.0035	-.003	-.0006	0	.13	.38	.17
1985	Pulk <sub>ss</sub> 1226	5.2		29	12.348	90.9	+2.7563-.0003	-.001	-.0007	0	.13	.69	.18
1986	Radcl 1086	5.9		29	16.193	86.7	+4.3698-.0254	-.027	-.0009-	1	.12	.56	.18
1987	$\nu$ Geminorum	4.2		29	45.691	66.0	+3.7029-.0114	-.011	-.0020-	1	.07	.33	.16
1988	Lal 14810	4.6		29	46.320	92.1	+2.5665+.0006	.000	-.0048	0	.09	.98	.20
1989	Pi 147	5.8		30	5.050	78.7	+2.5349+.0007	.000	-.0069	0	.10	.56	.20
1990	Pi 149	6.2		30	5.672	83.3	+2.5327+.0007	.000	-.0091	0	.11	.62	.20
1991	L 2860	5.7		30	13.915	85.5	+2.1694+.0010	.000	-.0022	0	.12	.68	.20
1992	Pi 154	6.9		30	21.651	82.0	+2.4725+.0009	+.001	-.0007	0	.13	.69	.23
1993	$\epsilon$ Mensæ	5.5		31	8.213	86.3	-3.2135-.1816	-.003	-.0143	0	.14	.72	.22
1994	Pi 163	4.6		31	22.025	84.2	+2.4082+.0010	+.001	-.0052	0	.14	.68	.22
1995	Br 1086	7.5		31	22.460	70.7	+5.1874-.0510	-.057	-.0002	0	.15	.44	.23
1996	Cape <sub>ss</sub> 1263	5.7		31	28.055	90.0	+2.7583-.0003	.000	-.0008	0	.12	.68	.18
1997	Br 1097	5.9		31	59.116	71.3	+3.9457-.0161	-.015	+.0032	0	.09	.28	.15
1998	Paris 9396	5.8		32	17.341	97.9	+2.6365+.0004	.000	-.0009	0	.16	1.12	.21
1999	Br 1102	5.2		32	18.380	87.8	+2.9841-.0020	-.002	-.0047	0	.05	.51	.12
2000	Br 1093	6.4	7	32	33.331	76.4	+4.9866-.0448	-.048	-.0008	0	.09	.40	.17

1951  $\beta$  578. 10<sup>M</sup> 2'' 3 46°.1957  $\Sigma$  1097. 8<sup>M</sup> 7 20'' 313°; 11<sup>M</sup> 23'' 157°; 12<sup>M</sup> 32'' 43°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
1951	-17 39 48.15	92.0	-7.080-.362	+0.05	-.004 0	.12	1.08	.23	176 G Canis Maj *
1952	+31 59 0.42	72.5	-6.893-.526	+0.12	+0.183-2	.06	.25	.11	
1953	+9 7 40.74	73.9	-7.071-.442	+0.08	+0.008+1	.09	.40	.17	
1954	-22 53 4.38	94.8	-7.075-.344	+0.04	+0.007 0	.12	.94	.19	177 G Canis Maj
1955	-33 56 22.46	73.0	-7.110-.300	+0.03	-.008 0	.14	.67	.28	91 G Puppis
1956	+28 19 27.46	62.5	-7.171-.507	+0.12	-.059 0	.11	.47	.25	64 Geminorum $b^1$
1957	-11 21 14.18	74.8	-7.116-.381	+0.06	-.001 0	.08	.37	.15	$\beta$ 332. $6^M_3$ - $8^M_2$ 0''9 169° *
1958	-22 39 21.57	97.9	-7.132-.345	+0.04	+0.008 0	.15	1.16	.21	92 G Puppis
1959	+28 7 20.29	66.0	-7.191-.506	+0.12	-.040 0	.09	.39	.19	65 Geminorum $b^2$ *
1960	-50 49 0.15	82.0	-7.171-.207	+0.02	-.003 0	.11	.50	.18	44 G Carinae
1961	-28 57 7.03	79.0	-7.178-.321	+0.03	+0.007 0	.13	.51	.20	93 G Puppis
1962	+12 12 48.34	71.1	-7.222-.452	+0.09	-.019 0	.09	.30	.15	6 Canis Min
1963	-1 41 57.38	97.6	-7.200-.410	+0.07	+0.005 0	.11	1.13	.18	
1964	-7 20 54.55	78.2	-7.101-.394	+0.06	+0.130-1	.14	.63	.24	
1965	-14 47 8.28	79.4	-7.514-.366	+0.05	-.263+2	.11	.42	.17	$\Sigma$ 1104. $8^M_3$ 2''3 332°
1966	-31 38 32.88	76.0	-7.276-.310	+0.03	-.009 0	.13	.63	.25	$7^M_2$ fols. 0''60, N 6''5
1967	-31 14 59.09	75.0	-7.288-.311	+0.03	-.004 0	.12	.61	.24	96 G Puppis
1968	-22 48 58.83	95.0	-7.313-.343	+0.04	+0.002 0	.14	1.14	.22	97 G Puppis
1969	-38 36 19.62	83.1	-7.309-.279	+0.03	+0.008 0	.13	.60	.21	98 G Puppis $\gamma$
1970	-9 34 3.18	94.8	-7.352-.385	+0.06	-.002 0	.12	.99	.19	Lal 14658 $5^M_9$ to $8^M_0$
1971	+17 17 55.69	89.6	-7.431-.467	+0.10	-.081 0	.11	.55	.16	
1972	-43 5 56.18	73.5	-7.172-.254	+0.03	+0.180+1	.09	.39	.17	Dunlop. $8^M$ 22'' 73°
1973	-30 45 7.14	74.4	-7.410-.312	+0.03	+0.004 0	.11	.58	.23	100 G Puppis
1974	+2 7 35.04	68.4	-7.434-.419	+0.07	-.013 0	.11	.44	.21	7 Canis Min $\delta^1$
1975	+15 51 13.20	63.4	-7.493-.460	+0.10	-.007 0	.12	.49	.26	67 Geminorum
1976	-50 23 53.64	81.6	-7.486-.210	+0.02	+0.012 0	.13	.69	.24	102 G Puppis
1977	+16 2 29.85	68.2	-7.528-.460	+0.10	-.025 0	.06	.30	.14	68 Geminorum
1978	+3 30 12.42	77.2	-7.472-.422	+0.08	+0.034 0	.12	.35	.17	8 Canis Min $\delta^2$
1979	+32 6 26.78	69.9	-7.637-.513	+0.13	-.110+2				Castor. See Appendix.
1980	+55 58 30.60	88.8	-7.606-.659	+0.26	-.044 0	.13	.45	.16	
1981	+31 10 41.08	76.4	-7.575-.512	+0.13	-.001 0	.10	.37	.16	02 175. $6^M_1$ - $6^M_7$ 0''7 330°
1982	-19 11 42.17	98.4	-7.653-.354	+0.05	-.069 0	.18	1.47	.25	105 G Puppis
1983	-24 29 44.83	78.5	-7.583-.335	+0.04	+0.006 0	.14	.91	.32	106 G Puppis
1984	+3 35 19.01	76.1	-7.605-.422	+0.08	-.013 0	.12	.34	.17	9 Canis Min ( $\delta^3$ )
1985	-14 18 27.59	87.3	-7.620-.368	+0.06	-.013 0	.12	.67	.19	
1986	+46 24 2.42	84.0	-7.659-.586	+0.19	-.046 0	.12	.52	.18	
1987	+27 7 4.81	61.0	-7.768-.495	+0.12	-.116 0	.06	.26	.14	
1988	-22 4 48.14	89.2	-7.608-.342	+0.05	+0.045+1	.10	1.00	.23	108 G Puppis
1989	-23 15 20.35	78.2	-7.680-.337	+0.05	-.002+1	.09	.50	.18	111 G Puppis $n^1$ *
1990	-23 15 23.74	80.0	-7.699-.337	+0.05	-.020+1	.10	.51	.18	112 G Puppis $n^2$ *
1991	-36 7 15.30	74.8	-7.700-.289	+0.03	-.010 0	.13	.60	.25	115 G Puppis $z$ , $Z$
1992	-25 53 50.98	76.3	-7.724-.330	+0.05	-.023 0	.12	.55	.22	114 G Puppis
1993	-78 53 4.98	87.9	-7.747+.437	+0.47	+0.016+2	.11	.71	.19	
1994	-28 8 53.96	76.7	-7.808-.320	+0.04	-.026+1	.12	.51	.21	119 G Puppis $p$
1995	+59 47 21.07	61.1	-7.773-.694	+0.31	+0.009 0	.12	.30	.19	48 Camelopardi
1996	-14 16 16.49	87.8	-7.780-.367	+0.06	+0.010 0	.12	.71	.20	122 G Puppis *
1997	+35 16 21.05	72.8	-7.814-.526	+0.15	+0.018 0	.09	.33	.15	70 Geminorum
1998	-19 28 45.77	94.2	-7.847-.350	+0.05	+0.009 0	.16	1.01	.23	
1999	-3 53 15.61	83.0	-7.840-.396	+0.07	+0.018+1	.06	.36	.12	25 Monocerotis
2000	+57 18 39.62	69.9	-7.895-.665	+0.27	-.017 0	.08	.29	.14	23 Lyncis

1959  $\beta$  1194.  $12^M$  13'' 289°.1989-90 South.  $9''$  109°.1996  $\Sigma$  1120.  $9^M_5$  20'' 36°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m					s	$\alpha$ Ep.	100 $\mu$
2001	$\alpha$ Geminorum	5.1	7	32	38.375	66.1	+ 3.9246-.0161	-.015	-.0022- 1	.10	.38	.20
2002	Äbo 157	8.7	33	9.468		73.0	+ 3.1874-.0042	-.003	+.0012 0	.10	.50	.21
2003	L 2902	4.9	33	11.292		86.7	+ 1.4850-.0028	-.002	+.0014 0	.14	.80	.23
2004	L 2890	4.7	33	40.084		89.6	+ 2.2189+.0012	+.001	-.0029 0	.10	.81	.20
2005	Br 1103	5.4	33	42.123		69.9	+ 3.4688-.0079	-.007	+.0003 0	.08	.36	.16
2006	Pi 156	5.8	33	49.205		72.0	+ 4.4463-.0292	-.028	-.0053- 2	.15	.57	.26
2007	L 2904	6.0	33	55.913		86.3	+ 1.6807-.0010	-.001	-.0010 0	.20	1.28	.36
2008	$\alpha$ Canis Min. c. g.	0.2	34	4.108		70.6	+ 3.1433-.0055	-.004	-.0466- 6			
2009	Pi 173	4.7	34	8.282		82.8	+ 2.4964+.0008	+.001	-.0010 0	.14	.64	.22
2010	Br 1096	5.0	34	32.907		85.7	+ 5.1016-.0502	-.052	-.0039- 1	.05	.32	.09
2011	Pi 175	4.5	34	43.454		81.9	+ 2.4593+.0010	+.001	-.0008 0	.12	.68	.22
2012	Pi 177	4.6	34	43.974		82.2	+ 2.4579+.0010	+.001	-.0022 0	.12	.68	.22
2013	Br 1107 m	6.2	34	48.323		72.2	+ 3.1886-.0042	-.003	-.0007 0	.10	.32	.15
2014	L 2903	6.0	35	6.459		88.4	+ 2.1741+.0011	+.001	-.0009 0	.12	.78	.21
2015	L 2918	5.8	35	28.601		81.9	+ 1.6956-.0009	-.001	-.0015 0	.18	.98	.33
2016	Cape <sub>80</sub> 1281	5.3	35	48.806		93.0	+ 2.7429-.0003	.000	-.0014 0	.13	.78	.18
2017	L 2909	5.0	35	55.931		85.0	+ 2.1137+.0010	.000	-.0019 0	.13	.72	.22
2018	L 2912	6.0	36	11.776		80.7	+ 2.1198+.0010	.000	-.0021 0	.18	1.02	.35
2019	L 2913	6.0	36	16.150		86.0	+ 2.1159+.0010	.000	-.0020 0	.13	.72	.22
2020	Lal 14961	6.0	36	24.949		97.3	+ 3.3855-.0069	-.005	-.0010 0	.10	.81	.14
2021	$\gamma$ Monocerotis	4.1	36	28.181		82.7	+ 2.8671-.0013	-.001	-.0051 0	.06	.42	.13
2022	Br 1104	5.5	36	29.796		71.3	+ 4.5596-.0330	-.031	-.0014 0	.11	.44	.20
2023	$\sigma$ Geminorum	4.3	37	3.798		69.3	+ 3.7565-.0135	-.011	+.0053- 2	.09	.32	.15
2024	Br 1098	6.2	37	6.727		73.4	+ 5.7769-.0791	-.084	+.0071 0	.10	.38	.17
2025	Br 1100	6.8	37	24.382		66.9	+ 5.4646-.0664	-.067	-.0047- 1	.10	.32	.17
2026	L 2924	5.7	37	44.819		86.4	+ 2.1094+.0010	.000	-.0020 0	.14	.70	.22
2027	Pi 182	7.3	37	56.102		90.7	+ 3.6238-.0110	-.009	-.0024 0	.13	.52	.17
2028	Br 1109	5.6	38	0.977		69.3	+ 3.6645-.0117	-.009	-.0015 0	.10	.39	.19
2029	$\kappa$ Geminorum	3.5	38	24.701		76.6	+ 3.6280-.0111	-.009	-.0016 0	.04	.21	.08
2030	Br 1116	6.0	38	40.424		84.1	+ 2.4763+.0009	+.001	-.0007 0	.11	.68	.21
2031	$\beta$ Geminorum	1.1	39	11.882		65.9	+ 3.6776-.0128	-.010	-.0471+ 1	.02	.11	.05
2032	Br 1118	4.9	39	30.185		82.8	+ 2.4225+.0011	+.001	-.0005 0	.14	.64	.22
2033	L 2939	5.8	39	32.370		80.0	+ 2.1946+.0011	+.001	-.0030 0	.14	.78	.27
2034	Pi 132	6.8	39	45.838		75.5	+ 10.1346-.4255	-.625	-.1920+ 60	.06	.33	.13
2035	Br 1120	4.1	39	47.631		82.6	+ 2.4083+.0011	+.001	-.0002 0	.08	.40	.14
2036	L 2950	5.1	39	51.466		86.0	+ 1.8574-.0013	.000	-.0068- 7	.16	.92	.27
2037	Pulk <sub>88</sub> 1248	5.5	39	58.973		90.6	+ 4.0126-.0192	-.016	+.0021 0	.12	.70	.18
2038	L 2943	6.7	40	10.315		87.3	+ 2.1253+.0010	.000	-.0023 0	.14	.69	.21
2039	L 2945	5.1	40	17.620		82.5	+ 2.0427+.0005	.000	+.0112- 2	.11	.56	.19
2040	Br 1115	5.2	40	20.120		69.2	+ 3.4785-.0088	-.006	-.0048 0	.07	.32	.15
2041	L 2979	6.7	40	20.192		84.4	+ 1.1022-.0081	-.005	-.0032 0	.18	.78	.27
2042	L 2940	5.7	40	21.944		90.9	+ 2.5201+.0008	+.001	-.0024 0	.13	.72	.19
2043	L 2944	6.0	40	30.423		80.2	+ 2.1916+.0012	+.001	-.0073 0	.15	.75	.27
2044	L 2982	7.5	40	31.164		84.5	+ 1.1035-.0081	-.005	+.0004 0	.18	.80	.27
2045	Br 1117	5.4	40	45.982		64.3	+ 3.3063-.0061	-.004	-.0014 0	.13	.48	.26
2046	Pi 204	7.0	40	52.724		82.4	+ 2.7603-.0004	.000	-.0006 0	.13	.81	.26
2047	Br 1121	6.3	40	53.158		73.0	+ 2.7598-.0004	.000	-.0010 0	.11	.50	.22
2048	L 2954	6.1	41	0.530		81.9	+ 2.1358+.0011	.000	-.0022 0	.13	.75	.25
2049	$\pi$ Geminorum	5.4	41	3.610		85.1	+ 3.8775-.0165	-.013	+.0003 0	.05	.38	.11
2050	Pulk <sub>88</sub> 1253	6.0	7	41	8.559	93.0	+ 2.9379-.0019	-.001	+.0038- 1	.12	.66	.17

2011-2 10" 318°.

2018 Innes. 9<sup>m</sup> 1" 5 152°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10	Remarks.
	° ' "		" "	"	"	" " "	
2001	+34 48 49.22	68.0	-8.006- .522	+ .15	- .122 0	.10 .59 .27	
2002	+ 5 18 0.85	75.0	-7.997- .424	+ .08	- .071 0	.09 .57 .22	
2003	-52 18 37.90	83.2	-7.949- .196	+ .03	- .021 0	.11 .56 .19	50 G Carinae Q
2004	-34 44 36.82	83.6	-7.953- .293	+ .04	+ .014 0	.11 .61 .20	127 G Puppis f
2005	+17 54 8.32	61.1	-7.968- .460	+ .11	+ .002 0	.07 .27 .15	74 Geminorum f
2006	+48 21 54.04	66.1	-8.113- .591	+ .21	- .134+ 1	.13 .45 .24	
2007	-48 36 18.85	78.1	-7.982- .221	+ .03	+ .006 0	.14 .69 .26	130 G Puppis (Y <sup>1</sup> )
2008	+ 5 28 53.38	67.7	-9.029- .409	+ .08	-1.030+ 6		Procyon. See Appendix
2009	-25 8 15.69	80.3	-8.013- .330	+ .05	- .008 0	.13 .60 .22	128 G Puppis m
2010	+58 56 39.72	75.8	-8.099- .678	+ .31	- .061 0	.06 .22 .09	24 Lyncis
2011	-26 34 26.62	75.8	-8.028- .325	+ .04	+ .024 0	.11 .54 .22	133 G Puppis k <sup>1</sup> }
2012	-26 34 34.88	75.2	-8.038- .324	+ .04	+ .014 0	.11 .51 .21	133 G Puppis k <sup>2</sup> } *
2013	+ 5 27 40.45	68.4	-8.087- .422	+ .08	- .029 0	.09 .29 .15	$\Sigma$ 1126. 7 <sup>M</sup> 0-7 <sup>M</sup> 3 1" 144° slow
2014	-36 16 6.62	82.6	-8.091- .286	+ .04	- .009 0	.12 .56 .19	138 G Puppis
2015	-48 22 23.38	79.1	-8.113- .222	+ .03	- .001 0	.14 .73 .27	142 G Puppis (Y <sup>2</sup> )
2016	-15 1 55.30	86.8	-8.159- .362	+ .06	- .020 0	.12 .65 .19	140 G Puppis
2017	-38 4 41.64	79.8	-8.154- .278	+ .03	- .006 0	.11 .51 .19	143 G Puppis d <sup>1</sup>
2018	-37 54 32.54	82.1	-8.172- .278	+ .03	- .002 0	.13 .63 .22	144 G Puppis d <sup>2</sup> *
2019	-38 1 47.82	80.7	-8.178- .278	+ .03	- .003 0	.11 .54 .19	145 G Puppis d <sup>3</sup>
2020	+14 26 32.50	96.0	-8.181- .447	+ .11	+ .006 0	.11 .80 .16	
2021	- 9 19 4.19	77.6	-8.215- .377	+ .07	- .024+ 1	.06 .32 .12	Br 1110 26 F and $\alpha$ Mon.
2022	+50 40 13.21	65.8	-8.236- .603	+ .23	- .042 0	.09 .34 .18	
2023	+29 7 32.22	65.6	-8.476- .496	+ .14	- .237- 1	.08 .32 .16	
2024	+65 41 40.31	67.2	-8.231- .765	+ .42	+ .012- 1	.09 .27 .14	51 Camelopardi
2025	+63 4 18.11	63.6	-8.328- .722	+ .37	- .062+ 1	.09 .33 .18	49 Camelopardi
2026	-38 17 59.24	81.3	-8.289- .276	+ .03	+ .004 0	.13 .55 .20	150 G Puppis
2027	+24 28 53.89	83.5	-8.334- .477	+ .13	- .026 0	.12 .42 .16	
2028	+26 1 19.99	63.0	-8.342- .482	+ .13	- .027 0	.10 .40 .21	76 Geminorum c
2029	+24 38 16.07	69.8	-8.408- .477	+ .13	- .062 0	.04 .18 .08	O $\Sigma$ 179. 9 <sup>M</sup> 7" 236°
2030	-26 6 48.87	82.6	-8.394- .324	+ .05	- .027 0	.11 .57 .19	154 G Puppis
2031	+28 16 4.01	63.9	-8.466- .477	+ .14	- .058 +6	.02 .11 .06	Pollux
2032	-28 10 23.27	78.8	-8.421- .317	+ .04	+ .012 0	.13 .57 .22	155 G Puppis
2033	-35 48 44.19	72.6	-8.444- .286	+ .04	.008 0	.14 .75 .31	156 G Puppis
2034	+80 30 58.59	74.2	-8.392- 1.312	+ 1.78	+ .062+ 25	.07 .35 .14	Groomb 1339
2035	-28 42 56.63	81.6	-8.466- .314	+ .04	- .010 0	.08 .44 .15	157 G Puppis l (r)
2036	-44 55 9.87	78.8	-9.029- .241	+ .03	- .568+ 1	.12 .59 .22	159 G Puppis
2037	+37 45 34.45	88.6	-8.454- .527	+ .17	+ .017 0	.12 .60 .18	
2038	-37 57 45.94	81.7	-8.493- .277	+ .03	- .007 0	.12 .56 .20	160 G Puppis
2039	-40 41 21.61	82.8	-8.685- .268	+ .03	- .189- 2	.10 .51 .17	162 G Puppis (W)
2040	+18 45 14.27	65.0	-8.568- .455	+ .12	- .069+ 1	.06 .26 .13	81 Geminorum g
2041	-58 23 35.15	84.4	-8.504- .142	+ .03	- .005 0	.15 .69 .23	55 G Carinae
2042	-24 26 0.73	85.0	-8.489- .329	+ .05	+ .012 0	.12 .69 .21	161 G Puppis
2043	-35 49 28.12	73.6	-8.450- .285	+ .04	+ .062+ 1	.15 .75 .31	164 G Puppis
2044	-58 25 53.80	79.8	-8.524- .142	+ .03	- .011 0	.13 .61 .22	h 4000. 11 <sup>M</sup> 1" 5 236°
2045	+11 0 43.40	64.9	-8.550- .432	+ .10	- .017 0	.12 .45 .24	11 Canis Min
2046	-14 26 36.29	79.7	-8.576- .360	+ .06	- .034 0	.11 .61 .22	} $\Sigma$ 1138. 17" 339°
2047	-14 26 51.92	68.3	-8.576- .360	+ .06	- .034 0	.10 .36 .18	} 2 Puppis
2048	-37 42 6.78	81.2	-8.552- .278	+ .03	.000 0	.12 .59 .21	174 G Puppis
2049	+33 39 40.03	78.4	-8.596- .507	+ .15	- .040 0	.06 .28 .10	$\Sigma$ 1135. 11 <sup>M</sup> 22" 212°
2050	- 6 31 36.29	91.8	-8.657- .384	+ .08	- .094 0	.11 .73 .17	

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
2051	Br 1122	5.2	7	41	20.581	75.1	+2.7628-.0004	.000	-.0012 0	.08	.39	.16
2052	L 2958	3.2	41	41.503		80.9	+2.1365+.0011	+.001	-.0021 0	.10	.45	.16
2053	L 2957	5.5	41	51.321		91.2	+2.2387+.0040	+.001	-.0205+14	.12	.86	.20
2054	Br 1119	6.5	42	34.926		60.4	+3.5925-.0109	-.008	-.0009 0	.13	.46	.27
2055	Abd 161	6.1	42	54.682		85.4	+2.5785+.0006	+.001	-.0007 0	.12	.75	.22
2056	$\zeta$ Volantis	3.8	43	3.078		79.0	-0.7121-.0614	-.029	+.0020 0	.10	.64	.22
2057	Pi 199	6.3	43	13.211		69.3	+4.7493-.0418	-.036	-.0023+1	.13	.52	.25
2058	Br 1124 S*	6.0	43	15.733		70.5	+2.8104-.0008	.000	-.0074 0	.12	.48	.22
2059	S Puppis	Var.	43	49.760		81.2	+1.7416-.0007	-.001	-.0025 0	.16	1.00	.33
2060	L 2991	5.3	43	52.670		88.3	+2.1258+.0011	+.001	+.0011 0	.15	.75	.22
2061	$\sigma$ Puppis	4.7	43	55.765		81.4	+2.4935+.0009	+.001	-.0009 0	.09	.62	.20
2062	L 3003	5.4	44	30.208		84.4	+1.8118-.0003	.000	-.0023 0	.18	1.04	.32
2063	L 2995	7.1	44	47.693		88.5	+2.3397+.0012	+.001	-.0016 0	.14	.84	.23
2064	Br 1130	5.5	44	49.674		75.0	+2.5190+.0008	+.001	-.0028 0	.11	.57	.23
2065	$\xi$ Puppis	3.4	45	5.317		78.3	+2.5229+.0008	+.001	-.0005 0	.04	.22	.09
2066	Br 1129	5.7	45	10.176		64.7	+2.7104-.0002	.000	+.0038-1	.12	.44	.23
2067	L 3017	4.7	45	21.617		89.7	+1.7866-.0007	.000	-.0092-2	.18	1.02	.27
2068	Pi 228	6.0	45	22.294		82.6	+2.8849-.0014	-.001	+.0008 0	.15	.75	.26
2069	L 3006	5.9	45	46.259		94.2	+2.2899+.0013	+.001	-.0042 0	.16	1.18	.25
2070	L 3022	4.2	46	11.492		77.4	+1.8280-.0001	.000	-.0011 0	.12	.62	.23
2071	$\zeta$ Canis Min	5.2	46	30.814		87.0	+3.1129-.0038	-.002	-.0016 0	.12	.39	.15
2072	L 3046	5.6	46	57.815		86.2	+1.2898-.0058	-.004	-.0025 0	.18	.86	.27
2073	Br 1133	6.8	47	0.313		73.1	+2.8070-.0008	.000	+.0006 0	.16	.52	.25
2074	Br 1127	7.4	47	4.718		73.8	+3.5689-.0110	-.007	+.0001 0	.12	.54	.23
2075	Br 1134 m	5.5	47	8.465		77.5	+2.7789-.0010	.000	-.0041-2	.06	.27	.10
2076	Br 1125	6.5	47	12.930		72.0	+4.3790-.0313	-.023	-.0017 0	.10	.33	.16
2077	Paris 9649	6.0	47	21.714		94.3	+2.6122+.0004	.000	-.0043 0	.13	.75	.18
2078	$\phi$ Geminorum	5.1	47	22.692		73.0	+3.6784-.0133	-.009	-.0022 0	.05	.21	.09
2079	Br 1126	5.8	47	25.928		83.1	+4.3842-.0316	-.023	-.0042 0	.06	.24	.09
2080	L 3060	6.0	47	33.732		90.4	+0.9946-.0100	-.007	-.0104+3	.18	.92	.26
2081	L 3043	6.0	47	40.720		93.7	+1.6327-.0019	-.001	-.0067-1	.16	.99	.23
2082	Br 1136	5.9	47	42.761		67.8	+2.7617-.0005	.000	-.0005 0	.13	.57	.27
2083	Pi 242	5.9	47	51.630		78.4	+2.9630-.0022	-.001	-.0016 0	.16	.70	.28
2084	Groomb 1374	5.7	48	13.889		81.5	+7.2722-.1848	-.167	-.0020-2	.04	.34	.11
2085	Br 1123	6.9	48	20.589		59.7	+4.8898-.0496	-.038	+.0014-1	.13	.39	.23
2086	L 3035	5.1	48	31.593		82.4	+2.2399+.0017	+.001	-.0164+2	.13	.78	.25
2087	$\alpha$ Puppis	3.6	48	46.772		85.7	+2.0620+.0009	.000	-.0016 0	.10	.60	.17
2088	Pi 187	5.4	49	4.386		73.9	+9.6322-.4073	-.406	-.0115-8	.07	.40	.16
2089	L 3049	4.6	49	6.307		79.3	+2.1233+.0011	+.001	-.0007 0	.11	.50	.19
2090	L 3052	5.6	49	22.903		89.8	+2.2055+.0013	+.001	-.0011 0	.14	.72	.20
2091	Br 1137	5.5	49	49.812		66.3	+3.5067-.0102	-.006	-.0007 0	.11	.39	.20
2092	Pi 249	6.0	50	5.539		65.5	+3.2621-.0061	-.004	-.0007 0	.15	.68	.34
2093	L 3074	6.0	50	6.573		86.3	+1.4335-.0041	-.003	-.0011 0	.20	.81	.27
2094	L 3069	4.8	50	14.607		82.8	+1.6909-.0012	-.001	-.0014 0	.16	1.11	.34
2095	L 3068	4.3	50	21.876		79.2	+1.7639-.0007	.000	-.0002 0	.11	.57	.21
2096	L 3059	5.6	50	28.584		84.4	+2.2236+.0012	+.002	-.0005 0	.15	.81	.26
2097	L 3063	6.3	50	54.302		88.4	+2.2539+.0012	+.002	-.0028 0	.12	.75	.20
2098	Br 1138	6.1	51	18.833		67.4	+3.4106-.0086	-.005	-.0019 0	.08	.34	.17
2099	Br 1141	4.4	52	33.557		80.2	+2.5786+.0007	+.001	-.0029 0	.07	.33	.12
2100	L 3097	5.6	7	52	48.917	84.3	+1.2443-.0068	-.004	-.0118 0	.14	.70	.23

2054  $\beta$  1062. 13<sup>M</sup> 4" 34°.2058  $\Sigma$  1146. 7<sup>M</sup> 8 3" 13°.2060 Innes. 10<sup>M</sup> 11" 86°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
2051	-14 19 14.46	76.5	-8.576- .360	+ .06	+ .003 0	.08	.37	.15	4 Puppis, also 167 G
2052	-37 43 33.04	75.8	-8.614- .277	+ .04	- .008 0	.09	.39	.16	175 G Puppis <i>c</i>
2053	-33 58 32.56	87.8	-6.928- .288	+ .04	+ 1.691+3	.12	.80	.22	171 G Puppis
2054	+23 23 17.62	55.8	-8.691- .468	+ .13	- .015 0	.11	.42	.25	82 Geminorum *
2055	-22 16 24.42	83.4	-8.700- .335	+ .06	+ .002 0	.12	.87	.26	178 G Puppis
2056	-72 21 57.23	82.2	-8.711+ .097	+ .14	+ .002 0	.10	.69	.21	Dunlop. 10 <sup>m</sup> 17" 115°
2057	+54 22 43.25	61.3	-8.679- .619	+ .27	+ .048 0	.12	.43	.24	
2058	-11 56 49.63	69.0	-8.669- .364	+ .07	+ .061+1	.09	.43	.20	5 Puppis *
2059	-47 51 57.01	78.9	-8.762- .224	+ .03	+ .012 0	.12	.77	.27	L 2999. 7 <sup>m</sup> 2 to 9 <sup>m</sup>
2060	-38 15 49.17	80.7	-8.788- .275	+ .04	- .010 0	.13	.53	.20	185 G Puppis *
2061	-25 41 20.13	79.2	-8.789- .323	+ .05	- .007 0	.10	.50	.18	
2062	-46 21 37.00	80.8	-8.835- .233	+ .03	- .007 0	.15	.81	.28	187 G Puppis
2063	-31 22 4.88	82.2	-8.838- .302	+ .04	+ .012 0	.12	.61	.21	
2064	-24 39 43.72	70.2	-8.833- .325	+ .05	+ .020 0	.11	.61	.27	188 G Puppis
2065	-24 36 31.33	79.3	-8.872- .326	+ .05	+ .001 0	.05	.24	.09	$\beta$ 1063. 14 <sup>m</sup> 5" 190°
2066	-16 58 24.91	69.0	-8.994- .351	+ .06	- .114 0	.11	.41	.20	6 Puppis
2067	-46 49 31.06	80.8	-8.981- .228	+ .03	- .086+1	.14	.60	.22	196 G Puppis <i>Q</i>
2068	- 8 55 52.09	79.9	-8.889- .373	+ .07	+ .007 0	.12	.55	.20	
2069	-33 2 12.74	90.2	-8.909- .295	+ .04	+ .018 0	.15	1.10	.26	197 G Puppis
2070	-46 7 16.85	75.3	-8.969- .234	+ .03	- .009 0	.10	.51	.20	199 G Puppis <i>P</i>
2071	+ 2 1 19.56	79.8	-8.991- .402	+ .09	- .006 0	.11	.33	.15	
2072	-56 9 28.04	82.8	-9.013- .164	+ .03	+ .007 0	.14	.71	.24	60 G Carinae
2073	-12 33 49.02	75.7	-9.045- .362	+ .07	- .022 0	.12	.64	.25	8 Puppis
2074	+22 35 29.65	69.8	-9.053- .461	+ .13	- .024 0	.12	.46	.22	84 Geminorum
2075	-13 37 57.60	75.3	-9.373- .357	+ .07	- .339 0	.06	.26	.11	9 Puppis *
2076	+47 38 41.23	68.4	-9.044- .566	+ .23	- .004 0	.09	.33	.16	25 Lyncis
2077	-20 55 6.84	92.6	-9.041- .335	+ .06	+ .010+1	.13	.77	.19	
2078	+27 1 28.75	66.0	-9.090- .474	+ .14	- .037 0	.05	.23	.11	
2079	+47 49 26.10	76.4	-9.065- .566	+ .23	- .008 0	.06	.23	.10	26 Lyncis
2080	-60 2 3.11	85.6	-8.912- .124	+ .03	+ .155+1	.14	.65	.21	61 G Carinae
2081	-50 15 11.62	89.6	-9.125- .208	+ .03	- .049+1	.13	.69	.19	208 G Puppis
2082	-14 35 21.34	69.3	-9.096- .355	+ .06	- .017 0	.12	.42	.21	10 Puppis
2083	- 5 10 10.63	77.0	-9.109- .381	+ .08	- .019 0	.13	.65	.25	
2084	+74 11 6.52	78.9	-9.152- .940	+ .83	- .033 0	.05	.30	.10	
2085	+56 46 2.65	56.8	-9.153- .631	+ .31	- .025 0	.11	.36	.22	52 Camelopardi
2086	-34 27 14.01	73.2	-8.885- .285	+ .04	+ .257+2	.12	.65	.27	212 G Puppis *
2087	-40 19 4.47	80.8	-9.170- .263	+ .03	- .008 0	.09	.47	.16	
2088	+79 45 10.84	65.5	-9.245- 1.243	+ 1.65	- .060+2	.08	.36	.18	Groomb 1368
2089	-38 36 14.12	73.6	-9.201- .271	+ .04	- .014 0	.11	.42	.19	214 G Puppis <i>b</i> *
2090	-36 6 14.95	82.4	-9.221- .282	+ .04	- .012 0	.12	.54	.19	215 G Puppis
2091	+20 8 52.97	63.0	-9.290- .450	+ .13	- .046 0	.10	.38	.20	85 Geminorum
2092	+ 9 7 42.33	64.0	-9.351- .418	+ .11	- .087 0	.13	.63	.32	
2093	-54 6 27.21	88.8	-9.281- .181	+ .03	- .016 0	.16	.85	.24	62 G Carinae
2094	-49 21 10.36	78.3	-9.270- .214	+ .04	+ .006 0	.13	.75	.27	216 G Puppis
2095	-47 50 31.74	79.6	-9.303- .224	+ .04	- .018 0	.09	.51	.18	218 G Puppis <i>J</i> ( <i>R</i> )
2096	-35 36 55.65	76.4	-9.331- .283	+ .05	- .037 0	.15	.75	.29	217 G Puppis
2097	-34 35 0.32	80.4	-9.363- .286	+ .05	- .036 0	.14	.67	.24	220 G Puppis
2098	+16 3 26.68	66.9	-9.407- .436	+ .12	- .049 0	.07	.34	.16	1 Cancri
2099	-22 36 47.46	81.0	-9.447- .327	+ .06	+ .008 0	.08	.33	.12	11 Puppis ( <i>e</i> ) ( <i>j</i> )
2100	-57 2 17.66	83.2	-9.452- .154	+ .03	+ .022+2	.11	.59	.19	64 G Carinae

2075  $\beta$  101. 6<sup>m</sup> 0-6<sup>m</sup> 5 < 1", binary, 23 yrs. ±.2086 Howe. 8<sup>m</sup> 3" 281°.2089 Lowell. 11<sup>m</sup> 11" 82°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.			
			<sup>M</sup>	<sup>h</sup>	<sup>m</sup> <sup>s</sup>		<sup>s</sup>	<sup>s</sup>			$\alpha$ Ep.	100 $\mu$	$\alpha$ 10	
2101	Groomb 1385	6.0	7	52	57.864	80.8	+5.0595-	.0589	-.041	+ .0028	0	.12	.48	.18
2102	L 3911	8.1		53	1.56	73.3	-44.246-	-16.886		-.043	+ 3	.05	.32	.13
2103	Groomb 1359	6.5		53	1.67	78.6	+14.961-	-1.260		-.004	- 15	.06	.32	.11
2104	Br 1139	5.5		53	9.570	68.1	+3.1129-	.0041	-.001	-.0106	0	.11	.38	.20
2105	Br 1135	6.3		53	10.088	83.9	+5.1587-	.0638	-.045	-.0019	0	.06	.42	.13
2106	Groomb 1386	6.2		53	33.182	76.8	+5.4162-	.0762	-.053	-.0005-	1	.11	.42	.18
2107	Pi 251	7.1		53	38.322	74.8	+5.2176-	.0664	-.046	+ .0011	+ 1	.13	.48	.22
2108	L 3081	4.9		53	40.934	80.1	+2.3911+	.0013	+ .002	-.0008	0	.10	.62	.21
2109	L 3087	5.6		53	41.164	92.1	+1.9682+	.0007	+ .001	+ .0009	0	.20	1.17	.29
2110	L 3089	5.2		54	4.069	83.7	+1.9443+	.0006	+ .001	-.0003	0	.16	.72	.25
2111	$\chi$ Carinae	3.5		54	14.197	72.0	+1.5270-	.0030	-.002	-.0037	0	.09	.36	.16
2112	Groomb 1392	6.8		54	27.254	74.0	+4.9152-	.0541	-.036	-.0023-	1	.13	.44	.20
2113	L 3113	5.7		54	37.342	89.4	+1.0174-	.0112	-.007	-.0024	0	.18	1.06	.28
2114	L 3099	5.1		54	43.170	85.2	+1.8844+	.0002	+ .001	-.0028	0	.18	1.02	.31
2115	Br 1145	5.1		54	44.423	83.6	+2.9992-	.0028	-.001	-.0033	0	.08	.48	.15
2116	Br 1150	5.4		54	48.412	82.2	+2.5736+	.0007	+ .001	-.0002	0	.11	.54	.18
2117	Br 1140	6.2		54	52.877	79.1	+3.6366-	.0133	-.008	+ .0010	0	.08	.36	.14
2118	Br 1143	5.9		55	3.530	65.1	+3.4435-	.0094	-.005	-.0001	0	.09	.45	.22
2119	V Puppis	Var.		55	21.906	84.4	+1.7240-	.0011	-.001	-.0029	0	.18	.84	.28
2120	Cape 302	4.7		55	23.163	85.1	+2.6886	.0000	+ .001	-.0006	0	.11	.54	.18
2121	Br 1144	6.6		55	41.934	75.7	+3.6260-	.0132	-.007	-.0009	0	.12	.48	.21
2122	Br 1146	6.1		55	48.353	68.1	+3.4243-	.0091	-.004	+ .0004	0	.10	.52	.24
2123	L 3122	5.8		55	56.069	90.5	+1.1116-	.0092	-.007	+ .0670	+ 8	.18	.99	.26
2124	Pulk 1290	5.8		55	56.592	94.7	+3.1763-	.0051	-.002	-.0015	0	.14	.72	.18
2125	L 3103	5.3		55	56.608	86.6	+2.1169+	.0011	+ .001	-.0080-	1	.15	.78	.24
2126	Br 1151	4.9		56	8.109	71.2	+3.0533-	.0034	-.001	+ .0037	0	.12	.45	.21
2127	L 3112	6.5		56	22.962	86.9	+1.6935-	.0014	-.001	-.0016	0	.20	.81	.27
2128	Tay 3359	6.8		56	24.131	87.9	+1.6937-	.0013	-.001	-.0017	0	.20	.84	.27
2129	Pi 269	7.3		57	0.058	72.8	+4.9327-	.0566	-.035	-.0098-	1	.15	.51	.24
2130	Br 1153	4.6		57	3.794	68.8	+3.1229-	.0043	-.002	-.0026	+ 1	.10	.39	.19
2131	$\chi$ Geminorum	5.2		57	22.656	77.8	+3.6922-	.0150	-.008	-.0015	0	.03	.21	.07
2132	L 3140	5.1		57	54.973	82.7	+1.0297-	.0113	-.007	-.0020	0	.16	.81	.28
2133	Br 1152	7.2		57	56.305	75.9	+3.5479-	.0118	-.006	-.0028	0	.13	.50	.21
2134	L 3118	6.0		57	57.941	87.0	+2.1924+	.0014	+ .002	-.0032	0	.14	.87	.24
2135	Groomb 1119	7.3		58	2.65	75.4	+65.491-	32.886		-.035	+ 221	.04	.18	.07
2136	L 3154	5.0		59	4.216	84.4	+0.7648-	.0175	-.012	-.0019	0	.18	.78	.27
2137	Brisb 1872	5.8		59	18.458	86.2	+2.0619+	.0011	+ .001	-.0015	0	.16	.90	.27
2138	Br 1156	5.2		59	30.296	72.3	+3.3463-	.0082	-.004	-.0022	0	.09	.32	.15
2139	Groomb 1400	6.8		7 59	58.664	72.4	+6.2878-	.1312	-.078	+ .0335	0	.11	.57	.24
2140	Åbo 164	7.0		8	0 1.576	75.7	+2.7105-	.0001	+ .001	+ .0005	0	.13	.64	.26
2141	$\zeta$ Puppis	2.0		0	4.189	76.4	+2.1079+	.0013	+ .001	-.0030	0	.07	.30	.12
2142	Br 1155	6.5		0	14.347	67.4	+4.1722-	.0287	-.016	+ .0004	0	.14	.50	.25
2143	L 3131	5.4		0	22.316	85.8	+2.3394+	.0015	+ .002	+ .0007	0	.15	.87	.26
2144	Br 1157	6.4		0	22.873	63.7	+3.5599-	.0124	-.006	-.0014	0	.11	.42	.22
2145	Br 1154	4.9		0	56.252	85.3	+4.5336-	.0417	-.023	-.0058	0	.04	.26	.08
2146	$\mu$ Cancri	5.5		1	52.833	69.9	+3.5365-	.0120	-.006	+ .0018	0	.09	.38	.17
2147	L 3162	5.6		2	28.178	90.2	+1.5572-	.0030	-.002	+ .0013	0	.20	1.04	.28
2148	Br 1159	6.7		2	31.200	62.4	+4.1355-	.0282	-.015	+ .0011-	1	.15	.57	.31
2149	Br 1162	7.2		2	42.666	77.7	+3.6767-	.0153	-.008	-.0009	0	.11	.34	.16
2150	Br 1148	5.6		8	2 51.896	71.4	+6.0305-	.1199	-.065	+ .0008	0	.06	.28	.12

2109 7<sup>M</sup> fols. 10<sup>M</sup>25, N 64".2119 Var. 4<sup>M</sup>4 to 5<sup>M</sup>2. 9<sup>M</sup> 39" 40"; 10<sup>M</sup> 7" 72"; 11<sup>M</sup> 19" 50".

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	$\mu^{\text{3d}}$	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
2101	+59 19 7.78	81.2	- 9.462- .646	+ .35	+ .024 0	.10 .39 .15	A Octantis
2102	-88 34 24.83	75.6	- 9.481+ 5.690		+ .009+ 6	.05 .29 .11	
2103	+84 20 49.77	84.3	- 9.519- 1.916		- .028+ 1	.07 .39 .12	
2104	+ 2 29 29.11	61.9	- 9.406- .394	+ .09	+ .095+ 1	.11 .42 .23	14 Canis Min
2105	+60 35 52.34	75.1	- 9.524- .658	+ .37	- .022 0	.07 .26 .11	53 Camelopardi
2106	+63 21 53.78	71.1	- 9.552- .691	+ .41	- .021 0	.10 .30 .15	South 8 <sup>m</sup> 47" 82°
2107	+61 16 1.18	72.3	- 9.500- .665	+ .38	+ .038 0	.11 .42 .19	
2108	-30 3 55.77	75.2	- 9.533- .302	+ .05	+ .008 0	.10 .44 .18	225 G Puppis
2109	-43 13 55.63	91.0	- 9.525- .248	+ .04	+ .016 0	.16 1.05 .26	227 G Puppis *
2110	-43 50 26.86	79.9	- 9.555- .245	+ .04	+ .006 0	.13 .58 .22	228 G Puppis N
2111	-52 42 50.64	75.0	- 9.567- .191	+ .03	+ .017 0	.08 .35 .14	
2112	+57 33 1.61	70.9	- 9.673- .625	+ .33	- .073 0	.10 .33 .16	54 Camelopardi
2113	-60 15 28.85	82.4	- 9.614- .126	+ .03	- .001 0	.14 .67 .23	66 G Carinae
2114	-45 18 28.46	79.4	- 9.610- .236	+ .04	+ .011 0	.15 .73 .27	231 G Puppis O
2115	- 3 24 25.04	76.1	- 9.621- .379	+ .09	+ .001 0	.08 .37 .15	27 Monocerotis
2116	-23 2 18.99	81.9	- 9.637- .325	+ .06	- .009 0	.12 .51 .19	12 Puppis
2117	+25 39 59.76	76.1	- 9.634- .461	+ .14	- .001 0	.07 .33 .13	2 Cancri $\omega^1$ ( $\omega$ )
2118	+17 34 57.73	58.9	- 9.662- .436	+ .14	- .015 0	.08 .31 .18	3 Cancr
2119	-48 58 25.09	80.1	- 9.676- .216	+ .04	- .006 0	.14 .64 .24	L 3105 233 G Puppis *
2120	-18 7 29.17	78.3	- 9.717- .339	+ .07	- .045 0	.11 .57 .21	232 G Puppis
2121	+25 21 53.09	74.0	- 9.684- .458	+ .15	+ .012 0	.12 .44 .20	4 Cancr $\omega^2$
2122	+16 43 51.72	65.0	- 9.713- .433	+ .13	- .009 0	.08 .40 .20	5 Cancr
2123	-60 2 5.22	84.0	- 9.594- .146	+ .03	+ .120- 8	.13 .59 .20	69 G Carinae
2124	+ 5 9 17.49	91.7	- 9.704- .401	+ .11	+ .011 0	.13 .67 .18	
2125	-39 1 20.43	82.2	- 9.753- .265	+ .04	- .038+ 1	.12 .55 .19	234 G Puppis
2126	- 1 6 54.00	73.1	- 9.808- .386	+ .09	- .079 0	.09 .36 .16	28 Monocerotis
2127	-49 42 12.53	88.1	- 9.753- .211	+ .04	- .005 0	.16 .81 .24	236 G Puppis }
2128	-49 42 1.10	91.2	- 9.738- .211	+ .04	+ .012 0	.17 1.03 .26	237 G Puppis }
2129	+58 3 23.27	62.9	- 9.886- .622	+ .34	- .091+ 1	.14 .45 .25	
2130	+ 2 36 33.34	68.2	- 9.701- .392	+ .10	+ .099 0	.09 .34 .17	
2131	+28 4 29.04	75.3	- 9.876- .465	+ .16	- .052 0	.04 .22 .08	Br 1149 6 Cancr
2132	-60 18 41.30	81.8	- 9.849- .126	+ .03	+ .016 0	.13 .73 .24	73 G Carinae
2133	+22 21 3.74	69.9	- 9.887- .446	+ .14	- .020 0	.12 .43 .21	7 Cancr
2134	-37 0 21.45	83.8	- 9.870- .274	+ .04	- .001 0	.13 .71 .23	241 G Puppis
2135	+88 55 59.22	84.5	- 9.868- 8.302		+ .007+ 4	.04 .25 .08	4 B Ursae Min
2136	-63 17 24.77	82.8	- 9.938- .092	+ .04	+ .015 0	.15 .67 .24	77 G Carinae D ( $D^1$ )
2137	-41 1 47.10	83.5	- 9.967- .256	+ .04	+ .004 0	.13 .71 .23	L 3128? 246 G Puppis *
2138	+13 24 11.12	69.2	-10.064- .418	+ .13	- .078 0	.08 .30 .15	8 Cancr
2139	+70 0 39.02	67.2	- 9.920- .794	+ .63	+ .102- 4	.10 .41 .20	
2140	-17 22 56.07	75.4	-10.045- .338	+ .07	- .020 0	.12 .65 .26	
2141	-39 43 17.03	72.8	-10.022- .261	+ .04	+ .007 0	.07 .30 .13	
2142	+43 32 51.10	60.6	-10.073- .522	+ .22	- .031 0	.11 .36 .21	28 Lyncis
2143	-32 23 30.90	77.2	-10.061- .291	+ .05	- .009 0	.13 .63 .24	250 G Puppis
2144	+22 55 15.85	53.5	-10.068- .444	+ .15	- .015 0	.08 .30 .19	9 Cancr ( $\mu^1$ )
2145	+51 47 41.87	80.3	-10.102- .566	+ .28	- .008+ 1	.04 .20 .07	27 Lyncis
2146	+21 52 19.60	69.4	-10.247- .440	+ .14	- .081 0	.07 .35 .16	Also 10 Cancr $\mu^2$
2147	-52 49 17.91	84.8	-10.232- .191	+ .03	- .022 0	.15 .73 .24	78 G Carinae
2148	+42 43 24.64	62.5	-10.286- .515	+ .22	- .072 0	.12 .53 .28	
2149	+27 46 16.92	69.2	-10.262- .456	+ .16	- .034 0	.09 .29 .15	11 Cancr *
2150	+68 46 6.85	68.9	-10.235- .752	+ .58	+ .005 0	.05 .24 .11	55 Camelopardi

2137 9<sup>m</sup> pr.  $\alpha^6$  63, N 28".2149 10<sup>m</sup> 3" 218°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.			
			M	h	m		s	s			s	"	"	"
2151	Cape <sub>80</sub> 1405	5.4	8	2	53.302	90.3	+ 2.6474	+ .0004	+ .001	— .0007	0	.12	.78	.20
2152	Br 1165	6.5		3	7.165	63.8	+ 3.3574	— .0085	— .004	+ .0002	0	.11	.44	.23
2153	$\rho$ Puppis	2.8		3	17.123	73.0	+ 2.5545	+ .0010	+ .001	— .0065	0	.03	.16	.07
2154	L 3163	4.9		3	27.800	83.1	+ 1.9253	+ .0005	+ .001	— .0008	0	.16	.70	.25
2155	Br 1168	4.5		3	34.089	74.8	+ 3.0168	— .0031	.000	— .0016	0	.10	.40	.17
2156	Br 1166	7.0		4	10.525	71.2	+ 3.6334	— .0145	— .006	— .0008	0	.11	.40	.19
2157	Br 1167	6.1		4	25.855	68.6	+ 3.6207	— .0147	— .006	— .0051	— 2	.07	.28	.14
2158	Br 1174	4.4		4	33.782	73.6	+ 2.6785	+ .0002	+ .001	— .0010	0	.11	.45	.20
2159	Cape <sub>80</sub> 1414	5.7		4	54.085	93.4	+ 2.7461	— .0003	+ .001	+ .0005	0	.13	.81	.19
2160	Groomb 1391	6.4		5	12.532	71.0	+ 12.0350	— .8422	— .322	— .0019	— 10	.08	.39	.17
2161	Pi 321	7.2		5	22.609	74.9	+ 3.7707	— .0198	— .009	— .0364	— 4	.09	.44	.18
2162	Pi 311	6.0		5	52.252	58.2	+ 4.8126	— .0555	— .027	+ .0015	— 1	.13	.42	.25
2163	Br 1176	5.8		6	1.757	70.3	+ 2.7829	— .0008	+ .001	— .0158	0	.10	.38	.18
2164	L 3181	6.0		6	10.664	83.8	+ 1.7890	— .0005	.000	— .0009	0	.16	.84	.28
2165	L 3180	5.3		6	18.127	89.4	+ 1.9803	+ .0008	+ .001	+ .0009	0	.18	1.10	.29
2166	$\gamma^1$ Velorum	4.8		6	24.477	75.4	+ 1.8488	.0000	.000	— .0007	0	.13	.54	.23
2167	$\gamma^2$ Velorum	1.6		6	27.084	67.3	+ 1.8496	.0000	.000	— .0004	0	.08	.33	.16
2168	$\zeta^1$ Cancr <i>m</i>	4.7		6	28.653	71.9	+ 3.4456	— .0106	— .004	+ .0046	— 1	.06	.30	.13
2169	$\zeta^2$ Cancr	6.1		6	28.981	70.1	+ 3.4469	— .0106	— .004	+ .0059	— 1	.11	.87	.36
2170	Br 1177	4.8		6	34.803	72.8	+ 2.8157	— .0009	+ .001	— .0017	0	.11	.40	.19
2171	L 3187	5.5		6	40.745	85.4	+ 1.8240	— .0002	.000	— .0008	0	.20	1.17	.35
2172	Pulk <sub>85</sub> 1319	5.6		6	41.072	94.0	+ 2.9195	— .0021	.000	— .0036	0	.13	.87	.19
2173	Br 1173	5.8		6	57.095	72.7	+ 3.7275	— .0172	— .007	+ .0001	0	.11	.45	.20
2174	Br 1147	5.9		6	59.198	80.0	+ 7.6585	— .2580	— .109	+ .0067	0	.04	.28	.10
2175	L 3208	5.9		7	13.950	83.9	+ 1.4036	— .0052	— .003	+ .0019	0	.18	.78	.27
2176	L 3183	6.5		7	19.978	87.4	+ 2.2149	+ .0016	+ .002	— .0020	0	.14	.75	.22
2177	L 3222	4.8		7	21.141	84.4	+ 1.0033	— .0143	— .008	— .0209	— 9	.18	.86	.28
2178	Br 1164	6.5		7	24.824	65.8	+ 5.0917	— .0697	— .032	— .0021	0	.12	.46	.24
2179	$\epsilon$ Volantis	4.4		7	36.560	77.2	+ 0.2147	— .0367	— .025	— .0032	0	.15	.66	.26
2180	L 3191	4.2		7	47.188	87.2	+ 2.1435	+ .0015	+ .001	.0000	0	.15	.78	.22
2181	L 3197	4.9		8	3.179	85.4	+ 2.0270	+ .0011	+ .001	— .0001	0	.16	.75	.25
2182	Br 1169	7.0		8	42.157	68.0	+ 4.9936	— .0657	— .029	+ .0013	— 1	.10	.46	.22
2183	Br 1179	5.2		8	44.191	82.9	+ 2.7580	— .0004	+ .001	— .0009	0	.05	.28	.09
2184	L 3213	5.8		8	51.233	83.4	+ 1.8833	+ .0002	+ .001	— .0039	0	.18	1.08	.34
2185	Br 1171	5.6		9	32.122	67.2	+ 5.0181	— .0673	— .029	+ .0005	0	.10	.30	.17
2186	Br 1160	6.4		9	39.370	70.1	+ 6.6993	— .1788	— .070	+ .0007	— 2	.09	.39	.18
2187	L 3212	4.8		9	43.029	82.6	+ 2.2648	+ .0017	+ .002	.0000	0	.12	.54	.19
2188	L 3219	5.2		10	12.967	87.2	+ 2.2539	+ .0018	+ .002	+ .0006	0	.15	.75	.23
2189	Brisb 1942	6.2		10	13.436	89.1	+ 2.2539	+ .0018	+ .002	+ .0011	0	.15	.90	.24
2190	L 3217	6.3		10	13.731	84.1	+ 2.3715	+ .0017	+ .003	— .0014	0	.12	.66	.21
2191	L 3228	5.3		10	28.416	85.7	+ 1.8766	+ .0002	+ .001	— .0017	0	.20	1.35	.38
2192	L 3223	4.3		10	29.862	86.4	+ 2.1310	+ .0015	+ .002	+ .0046	0	.14	.69	.22
2193	Br 1172	5.9		10	35.154	71.6	+ 5.2611	— .0811	— .034	— .0024	0	.09	.39	.18
2194	L 3236	5.5		10	40.480	91.7	+ 1.7375	— .0010	.000	+ .0008	0	.20	1.14	.28
2195	$\beta$ Cancr	3.7		11	5.563	76.5	+ 3.2568	— .0072	— .002	— .0035	0	.03	.18	.07
2196	L 3237	6.2		11	11.154	84.8	+ 1.9269	+ .0006	+ .002	— .0010	0	.16	.75	.25
2197	Br 1178	6.1		12	21.610	57.8	+ 4.8753	— .0616	— .025	+ .0072	0	.11	.36	.22
2198	Br 1184	6.6		12	48.032	66.3	+ 2.7510	— .0003	+ .002	— .0012	0	.13	.44	.22
2199	Pulk <sub>85</sub> 678	6.3		13	39.185	89.4	+ 2.8483	— .0020	+ .001	+ .0191	— 5	.07	.75	.17
2200	L 3275	5.3	8	13	45.076	83.3	+ 0.9150	— .0162	— .011	— .0052	— 1	.16	.82	.28

2155  $\Sigma$  1190.  $12^M 32'' 105^\circ$ ;  $8^M 5 67'' 245^\circ$ .2170  $\beta$  1064.  $12^M 2'' 245^\circ$ .2178  $\Sigma$  1192.  $10^M 3'' 257^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
2151	-20 15 55.57	86.8	-10.267- .327	+ .07	-.026 0	.11 .75 .21	252 G Puppis
2152	+13 55 54.73	62.7	-10.292- .416	+ .13	-.033 0	.10 .43 .23	12 Cancrī
2153	-24 0 57.37	73.7	-10.226- .314	+ .06	+.045+ 1	.04 .19 .08	15 Argūs, i Navis, etc.
2154	-44 58 38.57	81.8	-10.297- .236	+ .04	-.012 0	.12 .60 .21	3 G Velorum
2155	- 2 41 33.45	69.4	-10.299- .373	+ .10	-.007 0	.08 .29 .14	29 Monocerotis (ζ) *
2156	+26 8 19.23	66.2	-10.376- .449	+ .15	-.038 0	.09 .34 .17	13 Cancrī $\psi^1$
2157	+25 48 39.10	59.6	-10.711- .447	+ .15	-.354+ 1	.06 .25 .14	14 Cancrī $\psi^2$ ( $\psi$ )
2158	-18 57 8.05	73.1	-10.375- .330	+ .07	-.008 0	.10 .36 .17	16 Puppis
2159	-15 57 19.52	87.0	-10.404- .338	+ .07	-.012 0	.13 .75 .22	257 G Puppis
2160	+82 44 26.46	70.1	-10.446- 1.494	+ 3.10	-.031 0	.11 .41 .20	
2161	+32 46 16.50	70.6	-11.092- .461	+ .18	-.664+ 4	.08 .34 .16	
2162	+56 45 7.03	53.6	-10.504- .594	+ .33	-.039 0	.12 .45 .28	
2163	-13 30 18.49	72.2	-10.432- .339	+ .08	+.045+ 2	.08 .34 .15	18 Puppis
2164	-48 23 24.16	80.4	-10.505- .218	+ .04	-.017 0	.13 .64 .23	6 G Velorum
2165	-43 49 40.30	87.5	-10.517- .242	+ .04	-.020 0	.14 .95 .26	7 G Velorum
2166	-47 3 2.51	73.6	-10.520- .225	+ .04	-.015 0	.10 .44 .19	8 G Velorum Bb 1916
2167	-47 2 30.71	69.9	-10.511- .225	+ .04	-.003 0	.07 .30 .14	
2168	+17 56 57.54	69.7	-10.650- .424	+ .14	-.140- 1	.05 .25 .11	} $\zeta^2$ is binary, <1", 59 yrs. $\pm$ } 5".4 114° slow
2169	+17 56 54.60	66.9	-10.624- .424	+ .14	-.114- 1	.09 .61 .28	
2170	-12 37 49.04	72.5	-10.507- .345	+ .08	+.011 0	.10 .37 .17	19 Puppis *
2171	-47 38 31.69	79.9	-10.550- .222	+ .04	-.025 0	.16 .77 .28	10 G Velorum
2172	- 7 28 28.32	90.3	-10.554- .357	+ .09	-.029 0	.12 .69 .18	1 G Hydræ
2173	+29 57 22.70	65.0	-10.568- .458	+ .17	-.023 0	.08 .34 .18	15 Cancrī ( $\psi$ Gem.)
2174	+76 3 44.24	86.1	-10.536- .946	+ 1.08	+.012- 1	.04 .34 .09	
2175	-55 47 25.94	83.1	-10.544- .170	+ .03	+.022 0	.15 .67 .23	80 G Carinæ
2176	-36 59 41.92	83.2	-10.569- .270	+ .05	+.005 0	.12 .59 .20	265 G Puppis
2177	-60 59 55.61	79.9	-10.863- .117	+ .04	-.288+ 3	.13 .64 .23	82 G Carinæ B
2178	+60 40 58.47	57.8	-10.572- .626	+ .39	+.008 0	.11 .34 .21	56 Camelopardi *
2179	-68 19 23.87	76.0	-10.572- .022	+ .07	+.022 0	.12 .57 .23	Dunlop. 8 <sup>m</sup> 6" 24°
2180	-39 19 13.48	81.2	-10.627- .261	+ .04	-.020 0	.13 .57 .21	267 G Puppis $h^1$
2181	-42 41 19.65	82.7	-10.632- .246	+ .04	-.005 0	.13 .64 .22	268 G Puppis
2182	+59 29 40.31	68.7	-10.712- .612	+ .38	-.037 0	.09 .47 .22	
2183	-15 29 12.85	78.7	-10.685- .336	+ .07	-.007 0	.06 .29 .11	20 Puppis
2184	-46 20 40.74	83.9	-10.707- .227	+ .04	-.021 0	.15 1.02 .31	13 G Velorum
2185	+59 52 39.60	65.2	-10.740- .613	+ .39	-.003 0	.10 .25 .15	29 Lyncis
2186	+72 43 3.35	73.1	-10.773- .820	+ .80	-.027 0	.08 .41 .17	$\Sigma$ 1193. 9 <sup>m</sup> 44" 86°
2187	-35 35 50.82	71.1	-10.763- .274	+ .05	-.013 0	.11 .51 .23	274 G Puppis $r$
2188	-36 1 8.51	84.2	-10.792- .272	+ .05	-.005 0	.13 .69 .22	276 G Puppis }
2189	-36 2 15.16	84.2	-10.805- .272	+ .05	-.017 0	.13 .69 .22	277 G Puppis }
2190	-31 50 14.34	80.0	-10.799- .287	+ .05	-.011 0	.12 .57 .21	275 G Puppis
2191	-46 41 19.01	86.8	-10.840- .226	+ .04	-.034 0	.17 1.37 .36	15 G Velorum *
2192	-40 2 32.19	80.6	-10.878- .258	+ .05	-.070- 1	.13 .53 .20	279 G Puppis $h^2$
2193	+62 48 58.39	72.1	-10.805- .641	+ .44	+.009 0	.08 .34 .15	57 Camelopardi
2194	-49 53 33.39	90.5	-10.845- .208	+ .04	-.024 0	.16 1.02 .26	16 G Velorum
2195	+ 9 29 37.54	73.6	-10.906- .394	+ .13	-.054 0	.03 .17 .07	
2196	-45 31 47.81	80.0	-10.862- .231	+ .04	-.004 0	.14 .59 .23	17 G Velorum
2197	+58 3 18.18	55.5	-10.927- .592	+ .36	+.018- 1	.09 .37 .22	30 Lyncis, 58 Camelopardi
2198	-15 58 31.79	70.5	-10.995- .331	+ .08	-.018 0	.11 .40 .19	21 Puppis
2199	-12 17 36.18	86.4	-12.030- .344	+ .08	-.991- 2	.07 .71 .18	
2200	-62 36 24.75	78.0	-11.074- .106	+ .04	-.028+ 1	.13 .59 .23	84 G Carinæ C *

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>rd</sup>	$\mu$ and 100 $\Delta \mu$		Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
			<sup>M</sup>	<sup>h</sup>	<sup>m</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>		<sup>s</sup>	<sup>"</sup>	<sup>"</sup>	<sup>"</sup>	<sup>"</sup>
2201	Brisb 1962	6.8	8	13	54.317	86.0	+2.4403+	.0017	+ .003	+ .0036	0	.13	.84	.24
2202	$\chi$ Cancr	5.3		13	59.461	68.4	+3.6525-	.0167	- .006	- .0009-	3	.07	.28	.14
2203	Pi 30	6.8		14	20.020	70.0	+5.0781-	.0735	- .027	+ .0015	0	.11	.57	.25
2204	L 3257	5.8		14	28.383	80.9	+2.2919+	.0019	+ .003	+ .0029	0	.16	1.20	.39
2205	Pi 42	6.1		14	31.077	73.8	+3.5059-	.0126	- .004	+ .0050	0	.10	.48	.20
2206	$\lambda$ Cancr	6.1		14	35.466	68.5	+3.5744-	.0143	- .005	- .0011	0	.07	.34	.16
2207	L 3259	4.5		14	48.724	80.1	+2.2445+	.0020	+ .002	- .0096	0	.09	.38	.14
2208	Br 1183	4.4		15	59.490	83.4	+4.1233-	.0315	- .011	- .0008-	1	.04	.27	.08
2209	L 3276	6.9		16	1.050	79.8	+1.8453	.0000	+ .001	- .0016	0	.16	.90	.32
2210	Pi 40	5.8		16	14.234	73.0	+4.5683-	.0498	- .018	- .0026-	2	.12	.34	.17
2211	Dpt 984 <i>m</i>	6.7		16	15.782	90.6	+3.0463-	.0038	.000	- .0012	0	.12	.57	.16
2212	Paris 10245	5.8		16	53.719	94.1	+2.6767+	.0004	+ .002	+ .0014	0	.15	.84	.20
2213	L 3291	7.0		17	10.545	85.4	+1.6732-	.0016	- .001	- .0048	0	.16	1.12	.32
2214	L 3313	5.0		17	12.465	85.2	+0.6739-	.0235	- .017	+ .0017+	1	.18	.90	.29
2215	Paris 10258	6.1		17	22.331	93.5	+2.7234	.0000	+ .002	- .0059	0	.13	.70	.17
2216	L 3277	4.9		17	26.759	79.4	+2.3623+	.0019	+ .003	- .0008	0	.11	.60	.21
2217	L 3281	5.3		17	34.435	84.7	+2.2660+	.0020	+ .003	- .0002	0	.15	.70	.23
2218	Br 1185	6.1		17	38.318	73.1	+3.4406-	.0114	- .003	- .0039	0	.06	.30	.13
2219	L 3287	6.4		17	47.047	89.5	+2.1708+	.0019	+ .002	+ .0006	0	.13	.78	.21
2220	Groomb 1433	6.3		17	56.565	60.7	+4.0764-	.0301	- .011	+ .0007	0	.14	.57	.31
2221	Br 1189	6.5		18	4.828	75.2	+2.8206-	.0010	+ .001	- .0029	0	.11	.50	.21
2222	Abo 172	8.3		18	20.001	85.0	+3.6264-	.0161	- .004	- .0015	0	.10	.44	.15
2223	Br 1187	6.5		18	27.117	80.1	+3.2857-	.0081	- .001	+ .0005	0	.12	.36	.16
2224	Pi 60	6.1		18	36.356	80.5	+2.5347+	.0014	+ .002	- .0008	0	.11	.54	.20
2225	L 3315	6.2		18	58.597	83.2	+1.3338-	.0070	- .005	- .0045	0	.18	.75	.27
2226	L 3308 <i>m</i>	4.9		19	27.096	77.4	+1.8455+	.0001	+ .001	- .0017	0	.16	.81	.31
2227	Br 1194	5.7		19	35.919	73.0	+2.9924-	.0033	+ .001	- .0143	0	.08	.34	.15
2228	$\kappa^1$ Volantis	5.5		20	6.412	81.8	-0.1480-	.0577	- .047	- .0062+	1	.18	.72	.27
2229	Br 1192	6.4		20	10.305	71.0	+3.4017-	.0111	- .002	- .0130-	1	.09	.36	.16
2230	$\kappa^2$ Volantis	5.8		20	17.774	83.8	-0.1391-	.0574	- .047	- .0009+	2	.18	.78	.27
2231	Pi 46	6.2		20	20.412	75.8	+5.7193-	.1190	- .030	- .0098+	1	.10	.44	.18
2232	Br 1190	6.0		20	22.892	64.9	+3.6569-	.0174	- .005	- .0023-	1	.13	.57	.20
2233	$\epsilon$ Carinæ	1.4		20	27.754	66.6	+1.2356-	.0091	- .006	- .0038	0	.08	.33	.16
2234	Pi 67	5.3		20	32.949	71.7	+3.2209-	.0069	- .001	- .0029	0	.15	.62	.28
2235	Cord 11272	5.9		20	34.132	96.4	+2.6104+	.0011	+ .002	- .0019	0	.13	1.24	.21
2236	Groomb 1437	6.7		20	38.411	79.4	+4.2003-	.0364	- .012	- .0031-	4	.11	.60	.21
2237	Br 1197	3.9		20	39.849	81.7	+2.9996-	.0033	+ .001	- .0044	0	.04	.24	.08
2238	Br 1193	7.6		20	43.000	75.0	+3.5756-	.0152	- .004	- .0029	0	.09	.33	.15
2239	Pi 66	8.1		20	43.331	90.3	+3.5757-	.0152	- .004	- .0029	0	.13	.62	.18
2240	Grw <sub>40</sub> 754	6.7		20	44.223	81.2	+3.6347-	.0166	- .004	- .0005	0	.09	.39	.15
2241	Br 1191 <sup>2</sup>	6.2		20	44.455	77.4	+3.6347-	.0166	- .004	- .0005	0	.10	.36	.15
2242	Pi 72	5.7		20	44.647	82.0	+2.5885+	.0012	+ .002	- .0039	0	.11	.57	.19
2243	Pi 74	8.2		20	47.689	89.2	+2.5908+	.0011	+ .002	- .0017	0	.14	.93	.24
2244	$\alpha$ Chamæleontis	4.0		21	6.637	80.3	-1.4828-	.1424	- .135	+ .0258+	17	.11	.58	.21
2245	Br 1196	5.9		21	12.133	65.3	+3.3221-	.0091	- .002	- .0017-	1	.12	.39	.21
2246	Br 1199	5.6		21	27.439	72.4	+2.9991-	.0032	+ .001	- .0036	0	.12	.50	.22
2247	$\sigma$ Ursæ Maj	3.4		21	57.603	69.9	+5.0230-	.0768	- .020	- .0167-	1	.03	.15	.07
2248	Pulk <sub>55</sub> 1346	5.9		21	58.933	96.9	+2.8309-	.0011	+ .001	- .0061	0	.12	.84	.16
2249	L 3323	5.6		22	22.002	87.2	+2.0985+	.0018	+ .002	- .0013	0	.16	.75	.24
2250	L 3337	5.3	8	22	40.405	91.2	+1.7073-	.0013	.000	- .0049	0	.20	1.14	.29

2217 h 4085. 11<sup>m</sup> 6<sup>m</sup> 270°.2226 Innes. 6<sup>m</sup> 6 1<sup>m</sup> 141°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
2201	-29 41 33.01	80.8	-11.038-.292	+.06	+.020 0	.13 .75 .26	286 G Puppis, L 3251
2202	+27 32 29.55	69.0	-11.452-.439	+.17	-.388 0	.06 .27 .13	
2203	+60 56 51.83	67.2	-11.092-.612	+.41	-.003 0	.10 .46 .22	Groomb 1427
2204	-35 8 23.41	73.9	-11.134-.274	+.05	-.035 0	.16 1.29 .49	287 G Puppis
2205	+21 3 47.34	72.6	-11.159-.421	+.15	-.057- 1	.09 .46 .19	
2206	+24 20 13.94	65.2	-11.139-.429	+.16	-.031 0	.06 .32 .16	
2207	-36 20 57.82	76.0	-11.039-.266	+.05	+.085+ 1	.08 .37 .15	289 G Puppis <i>q</i>
2208	+43 30 32.20	74.9	-11.317-.494	+.24	-.107 0	.05 .23 .10	31 Lyncis
2209	-47 53 1.58	76.0	-11.233-.218	+.04	-.022 0	.13 .67 .26	23 G Velorum
2210	+53 32 30.33	68.2	-11.338-.547	+.31	-.111 0	.10 .30 .16	
2211	-1 17 3.45	81.2	-11.275-.363	+.11	-.046 0	.09 .35 .14	$\Sigma$ 1216. 8 <sup>M</sup> 0 <sup>''</sup> 5 194°, binary
2212	-19 45 39.51	92.8	-11.307-.318	+.08	-.032 0	.15 .89 .21	
2213	-51 37 35.92	82.5	-11.246-.196	+.04	+.049+ 1	.13 .81 .26	24 G Velorum
2214	-65 17 55.65	80.0	-11.269-.076	+.05	+.029 0	.13 .63 .23	24 G Volantis
2215	-17 16 2.49	91.8	-11.346-.322	+.08	-.037+ 1	.15 .82 .21	
2216	-32 44 10.83	75.6	-11.319-.279	+.05	-.004 0	.10 .50 .20	294 G Puppis <i>w</i>
2217	-36 9 57.79	84.7	-11.338-.268	+.05	-.014 0	.14 .71 .23	295 G Puppis *
2218	+18 39 11.98	70.6	-11.361-.408	+.15	-.032 0	.06 .31 .14	20 Cancri <i>d</i> <sup>1</sup>
2219	-39 18 8.27	85.4	-11.348-.256	+.05	-.009 0	.13 .69 .21	297 G Puppis
2220	+42 19 36.70	56.8	-11.357-.485	+.23	-.007 0	.11 .42 .25	
2221	-12 43 59.68	75.0	-11.405-.334	+.08	-.045 0	.09 .39 .16	22 Puppis
2222	+26 47 17.40	79.6	-11.394-.430	+.17	-.015 0	.09 .34 .14	
2223	+10 57 15.87	74.9	-11.407-.389	+.13	-.020 0	.11 .34 .16	21 Cancri
2224	-26 1 39.05	80.2	-11.385-.299	+.07	+.013 0	.10 .46 .17	298 G Puppis
2225	-57 39 13.87	81.4	-11.427-.154	+.03	-.002 0	.15 .64 .24	87 G Carinæ
2226	-48 10 9.61	75.3	-11.461-.216	+.04	-.002 0	.13 .67 .27	26 G Velorum <i>B</i> *
2227	-3 25 37.27	72.1	-11.499-.351	+.10	-.029+ 2	.07 .30 .14	1 Hydræ
2228	-71 11 47.01	81.2	-11.472+.023	+.11	+.034+ 1	.15 .63 .24	
2229	+17 22 32.61	64.8	-11.672-.399	+.14	-.161+ 2	.08 .30 .16	25 Cancri <i>d</i> <sup>2</sup>
2230	-71 11 12.16	83.4	-11.481+.022	+.11	+.039 0	.15 .64 .23	8 <sup>M</sup> fols 3 <sup>s</sup> 8, N 35"
2231	+67 37 34.94	74.7	-11.526-.676	+.58	-.003+ 1	.08 .31 .14	
2232	+28 13 22.21	59.8	-11.657-.431	+.18	-.131 0	.12 .49 .27	22 Cancri $\phi$ <sup>1</sup>
2233	-59 11 15.44	68.6	-11.518-.142	+.03	+.014 0	.08 .32 .15	
2234	+7 53 25.78	66.8	-11.543-.379	+.13	-.005 0	.14 .57 .28	
2235	-22 49 47.32	95.2	-11.495-.306	+.07	+.044 0	.14 1.15 .22	
2236	+45 59 24.76	77.5	-11.905-.495	+.26	-.361 0	.09 .47 .18	
2237	-3 34 48.57	81.4	-11.571-.352	+.10	-.025 0	.04 .25 .08	30 Monocerotis
2238	+24 51 46.60	71.9	-11.637-.421	+.17	-.087 0	.09 .32 .15	24 Cancri ( <i>v</i> <sup>1</sup> )
2239	+24 51 51.33	83.7	-11.634-.421	+.17	-.084 0	.11 .49 .17	$\Sigma$ 1224. 6 <sup>''</sup> 43°
2240	+27 15 39.70	75.5	-11.559-.428	+.17	-.008 0	.08 .30 .13	23 Cancri $\phi$ <sup>2</sup>
2241	+27 15 44.11	72.0	-11.560-.428	+.17	-.009 0	.08 .31 .14	$\Sigma$ 1223. 5 <sup>''</sup> 216°
2242	-23 43 18.26	79.2	-11.524-.303	+.07	+.028 0	.10 .49 .18	302 G Puppis
2243	-23 43 16.14	84.9	-11.552-.304	+.07	+.003 0	.14 .67 .22	South, 41 <sup>''</sup> 87°
2244	-76 36 12.68	79.4	-11.463+.178	+.31	+.115- 3	.09 .49 .18	
2245	+12 59 4.52	69.4	-11.697-.390	+.14	-.113 0	.11 .44 .21	27 Cancri
2246	-3 39 30.36	72.3	-11.648-.351	+.10	-.045 0	.10 .39 .18	2 Hydræ
2247	+61 3 9.21	70.1	-11.752-.589	+.42	-.114+ 2	.03 .14 .06	
2248	-12 12 21.52	92.0	-11.670-.330	+.09	-.030+ 1	.12 .75 .18	
2249	-41 49 33.60	80.4	-11.670-.244	+.05	-.003 0	.14 .55 .22	309 G Puppis
2250	-51 24 1.01	90.2	-11.699-.197	+.04	-.010+ 1	.16 1.02 .26	28 G Velorum *

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
2251	Br 1198	6.2	8 22 41.105	67.6	+ 3.5646-.0150	-.004	-.0020 0	.10	.40	.20
2252	$\eta$ Volantis	5.5	22 58.611	82.4	- 0.4991-.0785	-.067	-.0065 0	.14	.70	.24
2253	Br 1200	6.2	23 2.563	68.0	+ 3.3527-.0098	-.002	-.0009 0	.08	.40	.19
2254	Pi 81 <i>m</i>	6.6	23 26.279	77.3	+ 3.0295-.0037	+.001	-.0015 0	.18	.72	.30
2255	$\theta$ Chamæleontis	4.2	23 38.679	79.7	- 1.7221-.1648	-.159	-.0447- 9	.07	.50	.16
2256	Pi 58	7.6	23 41.285	73.2	+ 5.6952-.1210	-.024	-.0069- 1	.18	.64	.30
2257	L 3336	6.0	24 7.180	83.5	+ 2.3164+.0022	+.003	-.0052 0	.20	1.36	.41
2258	$\beta$ Volantis	3.5	24 38.964	82.4	+ 0.6644-.0266	-.018	-.0067- 6	.11	.64	.21
2259	L 3359	5.2	24 52.022	85.8	+ 1.6441-.0021	-.001	-.0099- 1	.18	.82	.27
2260	Pi 78	6.7	25 3.340	71.4	+ 4.5284-.0516	-.013	+.0022- 2	.12	.52	.23
2261	Groomb 1418	7.7	25 20.80	72.4	+ 16.398-.2155		-.079- 12	.07	.40	.17
2262	L 3353	7.0	25 22.646	93.5	+ 2.0921+.0019	+.002	-.0023 0	.15	1.05	.23
2263	Br 1201	6.0	25 35.791	71.5	+ 3.5545-.0152	-.004	-.0062 0	.08	.34	.16
2264	Br 1195	5.4	25 39.084	67.2	+ 5.4223-.1041	-.020	-.0086- 1	.09	.33	.16
2265	$\theta$ Cancrī	5.8	25 53.704	56.3	+ 3.4268-.0119	-.003	-.0037 0	.09	.39	.23
2266	L 3367	5.6	25 55.279	86.2	+ 1.8945+.0006	+.001	-.0012 0	.15	.80	.24
2267	L 3366 <sup>2</sup>	5.4	26 5.406	83.2	+ 2.0206+.0016	+.002	-.0003 0	.18	.78	.28
2268	Groomb 1450	6.2	26 25.024	88.4	+ 3.9124-.0268	-.007	-.0090- 1	.05	.44	.11
2269	L 3356	5.7	26 27.926	94.8	+ 2.4045+.0021	+.003	-.0021 0	.16	1.23	.25
2270	L 3368	6.3	26 29.662	91.0	+ 1.9577+.0011	+.002	-.0041 0	.15	.80	.21
2271	$\eta$ Cancrī	5.7	26 55.619	77.0	+ 3.4762-.0132	-.002	-.0026 0	.03	.21	.08
2272	Br 1204	6.4	26 56.923	83.2	+ 3.8612-.0249	-.007	-.0116 0	.11	.45	.16
2273	Pi 95	5.6	27 1.311	81.6	+ 2.6964+.0005	+.002	-.0022 0	.09	.62	.20
2274	L 3424	5.6	27 2.605	89.4	+ 0.1626-.0460	-.038	-.0058+ 2	.20	1.02	.29
2275	Br 1205	6.5	27 5.482	71.6	+ 3.5538-.0153	-.003	-.0047 0	.10	.44	.20
2276	Br 1209	6.7	27 13.343	80.1	+ 3.2685-.0082	-.001	-.0003 0	.11	.36	.16
2277	Br 1208	5.9	28 18.478	70.8	+ 3.8666-.0252	-.006	-.0023 0	.12	.52	.24
2278	Groomb 1446	6.5	28 35.712	80.7	+ 6.7781-.2216	-.003	-.0042- 6	.05	.39	.13
2279	L 3386	6.7	28 57.247	86.1	+ 2.3409+.0027	+.003	-.0875+ 2	.11	.82	.23
2280	Pulk <sub>ss</sub> 1360	5.8	28 58.174	93.9	+ 3.0365-.0038	+.001	-.0022 0	.12	.75	.17
2281	L 3410	5.9	29 18.333	92.6	+ 1.6641-.0019	+.002	-.0045 0	.20	1.22	.29
2282	Br 1210	6.9	29 34.579	70.8	+ 3.4545-.0128	-.002	-.0029 0	.11	.39	.19
2283	L 3537	5.7	30 15.696	79.8	- 3.3842-.3450	-.441	-.0670+ 18	.07	.66	.21
2284	Br 1202	5.8	30 19.266	69.7	+ 5.3801-.1043	-.014	-.0020+ 3	.10	.33	.17
2285	Pi 108	6.3	30 32.037	80.3	+ 3.1933-.0070	.000	-.0084- 1	.10	.38	.15
2286	Lal 16896	7.3	30 32.330	90.8	+ 3.1927-.0070	.000	-.0091- 1	.13	.57	.17
2287	Br 1212	5.8	30 35.410	83.4	+ 2.9288-.0021	+.002	-.0016 0	.08	.48	.15
2288	L 3408	6.2	30 42.516	92.1	+ 2.2668+.0025	+.003	-.0007 0	.13	.92	.21
2289	Groomb 1458	6.0	30 54.369	79.1	+ 4.5065-.0533	-.011	-.0075 0	.10	.42	.16
2290	$\pi$ Ursæ Maj	4.8	31 28.592	66.4	+ 5.2946-.1000	-.013	-.0074+ 2	.08	.30	.15
2291	L 3428	4.9	31 40.378	85.5	+ 1.8333+.0002	+.001	-.0002 0	.18	.84	.27
2292	Br 1213	6.1	31 40.560	62.1	+ 3.2565-.0082	.000	-.0018 0	.11	.50	.26
2293	Pi 105	6.3	31 53.197	86.2	+ 4.4710-.0518	-.011	-.0026 0	.05	.39	.11
2294	Br 1211	6.3	32 4.303	69.1	+ 3.7587-.0221	-.004	-.0013 0	.13	.45	.23
2295	$\delta$ Hydræ	4.2	32 21.769	75.0	+ 3.1790-.0066	.000	-.0049 0	.06	.27	.11
2296	Br 1218	6.8	32 40.212	86.2	+ 3.2534-.0081	.000	-.0028 0	.13	.42	.16
2297	L 3443	6.1	32 52.910	86.1	+ 1.7923-.0002	+.001	-.0008 0	.14	.69	.22
2298	L 3452	5.5	32 56.148	88.8	+ 1.3943-.0065	-.004	-.0060 0	.20	.99	.29
2299	L 3451	4.8	32 57.937	90.1	+ 1.4181-.0060	-.003	+.0038+ 1	.15	.98	.24
2300	Pi 118	8.0	8 33 21.601	80.5	+ 3.4527-.0131	-.002	-.0017 0	.08	.36	.13

2254  $\Sigma$  1233. 11<sup>M</sup> 18" 329°; Aitken. 7<sup>M</sup> 4-7<sup>M</sup> 5 0" 2 60°.2266 h 4104. 8<sup>M</sup> 4" 241°; 9<sup>M</sup> 19".2257 10<sup>M</sup> fols. 1<sup>2</sup> 3, S 20".2267 Dunlop. 7<sup>M</sup> 4" 6 349°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
2251	+24 28 36.24	66.6	-11.761-.417	+17	-.071 0	.10	.36	.18	28 Cancri ( $v^2$ )
2252	-73 4 34.64	79.8	-11.692+.065	+15	+.019+1	.11	.57	.20	
2253	+14 32 30.87	68.3	-11.733-.392	+14	-.018 0	.07	.33	.16	29 Cancri
2254	-2 11 8.79	69.8	-11.765-.353	+11	-.022 0	.13	.47	.23	*
2255	-77 9 42.83	78.9	-11.736+.214	+35	+.022+5	.06	.44	.15	
2256	+67 37 48.90	67.1	-11.813-.666	+58	-.052+1	.15	.53	.27	
2257	-34 46 57.52	78.6	-11.783-.268	+05	+.009+1	.19	2.35	.76	4 G Pyxidis *
2258	-65 48 10.97	80.9	-11.995-.072	+06	-.166+1	.09	.51	.17	
2259	-52 45 26.91	79.9	-11.844-.187	+04	.000+1	.14	.59	.23	30 G Velorum <i>F</i>
2260	+53 27 12.62	65.3	-11.944-.526	+32	-.086 0	.12	.45	.23	
2261	+85 24 29.56	78.3	-11.963-1.911		-.085+9	.07	.40	.15	
2262	-42 15 15.45	89.7	-11.874-.241	+05	+.006 0	.12	.69	.18	31 G Velorum
2263	+24 25 6.12	72.3	-11.959-.411	+17	-.063+1	.08	.35	.15	30 Cancri $v^3$
2264	+65 29 10.14	66.9	-11.963-.630	+52	-.063+1	.07	.27	.14	2 Ursæ Maj <i>A</i>
2265	+18 25 56.53	50.7	-11.986-.396	+15	-.069 0	.07	.30	.19	
2266	-47 35 41.78	81.5	-11.924-.217	+04	-.005 0	.12	.57	.20	33 G Velorum <i>A</i> *
2267	-44 23 25.52	86.5	-11.943-.232	+04	-.012 0	.15	.79	.24	34 G Velorum *
2268	+38 21 33.73	84.4	-12.129-.453	+22	-.175+1	.06	.38	.11	
2269	-31 49 24.50	88.0	-11.987-.276	+06	-.030 0	.17	1.16	.31	7 G Pyxidis
2270	-45 59 48.63	85.6	-11.974-.223	+04	-.015 0	.12	.55	.18	35 G Velorum
2271	+20 46 51.24	73.6	-12.044-.401	+16	-.054 0	.03	.18	.07	
2272	+36 46 32.13	75.4	-11.999-.444	+21	-.008+1	.10	.34	.16	32 Lyncis
2273	-19 14 22.69	79.2	-12.003-.309	+08	-.007 0	.09	.50	.18	9 G Pyxidis
2274	-69 45 39.98	81.2	-11.940-.013	+09	+.058+1	.15	.63	.24	30 G Volantis
2275	+24 25 29.76	71.3	-12.066-.409	+17	-.065+1	.10	.41	.19	32 Cancri ( $v^2$ )
2276	+10 24 17.91	73.8	-12.020-.376	+13	-.010 0	.10	.31	.15	34 Cancri
2277	+36 45 45.48	68.0	-12.136-.444	+22	-.050 0	.11	.41	.20	33 Lyncis
2278	+73 58 45.66	80.8	-12.211-.782	+93	-.105 0	.06	.43	.14	
2279	-31 10 52.46	84.4	-11.394-.256	+06	+.737+11	.12	.92	.26	11 G Pyxidis
2280	-1 48 37.12	92.8	-12.111-.347	+11	+.021 0	.11	.65	.16	33 G Hydræ
2281	-52 52 19.82	88.0	-12.166-.187	+04	-.010 0	.15	.87	.24	39 G Velorum *
2282	+19 56 2.33	68.3	-12.192-.394	+16	-.018 0	.10	.36	.18	35 Cancri
2283	-80 35 10.60	82.1	-12.006+.404	+79	+.216+8	.07	.63	.19	6 G Chamæleontis
2284	+65 21 59.27	68.1	-12.141-.616	+52	+.085 0	.10	.26	.15	3 Ursæ Maj
2285	+6 58 8.04	73.8	-12.391-.362	+13	-.150+1	.09	.29	.14	} $\approx 1245. 7^m 3 10'' 25''$
2286	+6 58 17.70	95.7	-12.389-.362	+13	-.148+1	.13	.84	.18	
2287	-7 38 16.87	77.3	-12.234-.333	+10	+.011 0	.08	.40	.16	3 Hydræ
2288	-37 16 2.69	84.8	-12.242-.256	+05	+.011 0	.15	.89	.27	44 G Velorum *
2289	+53 44 58.64	74.0	-12.293-.514	+33	-.026+1	.11	.35	.17	
2290	+64 40 38.23	67.7	-12.286-.603	+50	+.020+1	.06	.27	.13	
2291	-49 35 58.93	79.2	-12.318-.206	+04	+.002 0	.13	.58	.22	46 G Velorum <i>C</i>
2292	+10 0 10.43	60.1	-12.342-.369	+14	-.022 0	.11	.43	.24	36 Cancri <i>c</i>
2293	+53 3 43.48	82.8	-12.366-.508	+32	-.032 0	.06	.34	.11	
2294	+33 9 3.61	66.4	-12.364-.426	+20	-.017 0	.12	.45	.23	
2295	+6 3 8.93	73.9	-12.378-.359	+13	-.011+1	.05	.25	.10	
2296	+9 55 26.69	80.8	-12.397-.367	+14	-.009 0	.12	.37	.16	37 Cancri
2297	-50 37 21.41	82.1	-12.414-.200	+04	-.011 0	.11	.51	.18	47 G Velorum <i>E</i>
2298	-57 52 41.51	81.0	-12.399-.154	+03	+.007+1	.15	.61	.23	95 G Carinæ $e^1$
2299	-57 39 47.28	85.8	-12.399-.158	+03	+.009 0	.12	.64	.20	96 G Carinæ $e^2$
2300	+20 1 40.71	78.0	-12.455-.389	+16	-.019 0	.07	.29	.12	

2281 Sellors.  $8^m 0'' 6 297''$ .2288 Innes.  $10^m 2'' 42''$ .



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h m s</sup>		<sup>s s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
2301	Pi 119	8.9	8 33 24.777	86.2	+3.4511-.0130	-.002	-.0015 0	.10	.42	.14
2302	$\sigma$ Hydræ	4.6	33 31.882	78.3	+3.1388-.0058	.000	-.0012 0	.09	.38	.15
2303	$\eta$ Pyxidis	5.3	33 35.896	83.4	+2.5627+.0018	+.003	-.0010 0	.12	.62	.20
2304	Br 1216	7.2	33 42.220	72.5	+3.7527-.0222	-.004	-.0017 0	.16	.63	.29
2305	Br 1220	6.9	33 58.011	76.3	+3.4535-.0131	-.002	-.0023 0	.09	.51	.20
2306	Br 1214	5.6	34 6.534	69.7	+4.1649-.0380	-.007	+.0028+ 1	.11	.45	.21
2307	L 3446	4.1	34 7.679	77.2	+2.1084+.0023	+.003	-.0013 0	.14	.81	.30
2308	Br 1222	6.7	34 21.348	69.2	+3.4573-.0133	-.002	-.0027 0	.09	.46	.21
2309	Br 1223	6.9	34 26.475	65.7	+3.4569-.0133	-.002	-.0023 0	.11	.52	.26
2310	Pi 129	6.8	34 37.723	73.2	+3.4502-.0131	-.002	-.0025 0	.10	.50	.21
2311	Br 1225	6.5	34 42.942	74.6	+3.4478-.0131	-.002	-.0022 0	.11	.54	.22
2312	Paris 10648 <i>m</i>	5.3	34 45.264	88.8	+2.6271+.0017	+.003	-.0169+ 2	.11	.86	.21
2313	Br 1226	7.1	34 58.841	73.7	+3.4520-.0132	-.002	-.0012 0	.12	.75	.30
2314	Br 1227	7.1	35 12.197	78.2	+3.4474-.0131	-.001	-.0027 0	.11	.64	.23
2315	Br 1229	5.3	35 17.191	79.3	+2.8428-.0010	+.002	-.0059 0	.07	.44	.15
2316	L 3475	5.5	35 32.337	84.8	+1.0726-.0147	-.010	-.0012- 1	.18	.88	.29
2317	$\zeta$ Pyxidis	5.2	35 33.484	84.3	+2.4901+.0022	+.004	-.0007- 1	.11	.68	.21
2318	$\beta$ Pyxidis	3.9	36 11.251	81.2	+2.3472+.0027	+.004	+.0004 0	.11	.46	.17
2319	L 3472	5.7	36 35.005	89.9	+1.6890-.0014	.000	-.0036 0	.20	1.02	.29
2320	L 3463	5.3	36 38.961	88.0	+2.2001+.0027	+.004	-.0055 0	.12	.68	.19
2321	Br 1234	5.1	37 4.952	73.1	+2.7835-.0002	+.003	-.0003 0	.15	.68	.20
2322	L 3476	5.4	37 6.491	86.2	+1.7095-.0012	.000	-.0048 0	.18	.88	.28
2323	L 3468	5.6	37 10.771	84.6	+2.0446+.0021	+.003	+.0006 0	.18	1.24	.36
2324	L 3470	3.6	37 18.520	81.4	+1.9901+.0018	+.003	-.0007 0	.11	.57	.20
2325	$\circ$ Velorum	3.5	37 25.759	76.6	+1.7206-.0009	.000	-.0018 0	.12	.51	.21
2326	L 3484	5.8	37 26.072	88.7	+1.7145-.0010	.000	-.0033 0	.20	.98	.28
2327	$\gamma$ Cancrī	4.7	37 30.016	72.1	+3.4788-.0143	-.002	-.0073 0	.04	.21	.09
2328	Br 1232	5.8	37 41.766	70.0	+3.3121-.0097	-.001	+.0007 0	.10	.50	.22
2329	L 3478	4.8	37 56.352	85.2	+1.9650+.0016	+.003	-.0028 0	.20	1.24	.37
2330	$\eta$ Hydræ	4.4	37 59.861	64.8	+3.1384-.0058	+.001	-.0015 0	.12	.44	.23
2331	L 3504	4.4	38 24.388	83.5	+1.3277-.0082	-.005	-.0032 0	.14	.66	.22
2332	L 3486	5.2	38 32.746	85.3	+2.0405+.0022	+.003	-.0007 0	.20	1.18	.35
2333	Grw <sub>60</sub> 633	8.5	38 34.527	73.8	+3.9765-.0334	-.004	-.0241- 5	.09	.60	.24
2334	$\theta$ Volantis	5.3	38 43.165	82.2	+0.2462-.0477	-.043	+.0044- 1	.15	.78	.26
2335	Br 1238	4.7	38 45.764	74.9	+2.9488-.0024	+.002	+.0004 0	.12	.54	.22
2336	$\delta$ Cancrī	4.1	39 0.194	74.4	+3.4154-.0128	-.001	-.0012- 1	.03	.16	.07
2337	L 3492	5.6	39 2.020	86.1	+1.9370+.0014	+.002	-.0047 0	.20	1.32	.37
2338	Br 1233	6.4	39 13.405	83.1	+3.6909-.0210	-.002	+.0002 0	.12	.44	.17
2339	Br 1237	5.8	39 19.435	83.9	+3.2605-.0086	.000	-.0010 0	.12	.40	.16
2340	L 3505	5.8	39 26.979	86.4	+1.7200-.0009	.000	-.0037 0	.18	.92	.28
2341	L 3507	5.1	39 33.372	87.4	+1.7207-.0009	.000	-.0029 0	.18	.94	.28
2342	$\alpha$ Pyxidis	3.6	39 34.457	85.5	+2.4100+.0028	+.004	-.0009 0	.07	.44	.13
2343	Br 1240	6.3	39 43.567	84.6	+3.1811-.0068	+.001	+.0003 0	.12	.40	.16
2344	Pi 137	6.4	39 46.222	75.3	+5.4947-.1226	+.002	-.0004- 1	.10	.51	.20
2345	Pi 159	8.0	40 17.300	82.6	+3.0305-.0038	+.001	-.0019 0	.18	1.08	.34
2346	Pi 160	6.8	40 17.724	76.1	+3.0320-.0038	+.001	-.0004 0	.16	.69	.29
2347	L 3514	5.2	40 32.468	93.2	+1.8793+.0010	+.002	+.0016 0	.16	.98	.23
2348	$\epsilon$ Cancrī	4.2	40 38.843	81.4	+3.6399-.0195	-.002	-.0015 0	.04	.27	.09
2349	L 3508	3.9	40 49.653	89.9	+2.1435+.0028	+.004	-.0005 0	.18	.84	.25
2350	Groomb 1463	7.8	8 40 51.485	71.4	+9.1014-.5688	+.334	-.0072+ 2	.08	.40	.17

2312  $\beta$  208. 5<sup>M</sup>6-6<sup>M</sup>8 < 1''5, binary.2316 h 4125. 10<sup>M</sup> 8'' 234°.2320 8<sup>M</sup> 4'' 60°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 19$	Remarks.
	" ' "		" "	"	"	" " "	
2301	+19 56 37.07	78.9	-12.458-.389	+16	-.019 0	.09 .32 .13	
2302	+ 3 41 33.11	75.2	-12.467-.353	+12	-.020 0	.08 .32 .14	
2303	-25 54 17.13	78.3	-12.464-.287	+08	-.012 0	.10 .41 .16	(Mali g)
2304	+33 4 48.68	68.3	-12.506-.423	+20	-.047 0	.13 .54 .26	
2305	+20 7 50.74	75.8	-12.493-.388	+16	-.016 0	.08 .42 .17	38 Cancri
2306	+46 11 5.01	61.4	-12.410-.470	+27	+.077 0	.10 .33 .19	34 Lyncis
2307	-42 38 21.16	78.6	-12.494-.235	+05	-.006 0	.10 .47 .18	48 G Velorum e
2308	+20 21 38.89	68.2	-12.526-.388	+16	-.022 0	.08 .41 .19	39 Cancri
2309	+20 19 27.62	64.6	-12.527-.388	+16	-.017 0	.09 .46 .23	40 Cancri
2310	+20 1 24.67	66.2	-12.544-.387	+16	-.022 0	.10 .42 .21	$\Sigma 1254. 9^m 20'' 53^\circ$
2311	+19 53 54.63	69.1	-12.546-.387	+16	-.018 0	.09 .40 .19	41 Cancri (e)
2312	-22 19 18.47	90.3	-12.115-.291	+08	+.416+ 2	.11 1.01 .23	*
2313	+20 4 24.74	71.0	-12.558-.387	+16	-.012 0	.11 .51 .23	42 Cancri
2314	+19 56 5.67	74.0	-12.578-.386	+17	-.016 0	.11 .49 .21	
2315	-12 7 18.58	76.4	-12.571-.317	+10	-.004+ 1	.07 .41 .16	6 Hydræ
2316	-62 30 5.78	82.1	-12.613-.116	+04	-.029 0	.14 .69 .24	97 G Carinæ *
2317	-29 12 18.20	79.9	-12.682-.277	+07	-.096 0	.10 .52 .19	Mali f
2318	-34 57 12.04	74.8	-12.648-.260	+06	-.019 0	.10 .44 .18	Mali b
2319	-53 5 10.07	84.2	-12.637-.185	+04	+.019 0	.14 .71 .23	51 G Velorum
2320	-39 54 32.44	80.3	-12.672-.243	+05	-.012+ 1	.12 .51 .19	50 G Velorum *
2321	-15 35 2.40	72.6	-12.788-.309	+09	-.099 0	.12 .47 .21	9 Hydræ
2322	-52 42 0.90	78.7	-12.696-.187	+04	-.005 0	.13 .59 .23	54 G Velorum *
2323	-44 50 7.07	81.0	-12.692-.225	+05	+.004 0	.14 .87 .29	52 G Velorum
2324	-46 17 34.76	79.0	-12.718-.219	+05	-.013 0	.09 .45 .17	53 G Velorum b
2325	-52 34 0.44	78.2	-12.701-.188	+04	+.012 0	.10 .47 .18	Cluster
2326	-52 39 37.21	83.4	-12.697-.187	+04	+.016 0	.15 .67 .23	55 G Velorum
2327	+21 49 41.23	70.2	-12.768-.386	+17	-.050+ 1	.04 .20 .09	
2328	+13 2 22.20	68.3	-12.735-.368	+15	-.004 0	.09 .42 .20	45 Cancri A <sup>1</sup>
2329	-46 57 36.88	79.1	-12.751-.215	+05	-.004 0	.15 .75 .28	58 G Velorum n
2330	+ 3 45 27.76	65.8	-12.753-.347	+13	-.002 0	.09 .36 .18	
2331	-59 24 14.82	81.6	-12.785-.143	+04	-.006 0	.10 .53 .18	99 G Carinæ d
2332	-45 3 8.64	80.8	-12.796-.224	+05	-.008 0	.15 .81 .28	59 G Velorum
2333	+42 3 4.76	72.8	-13.439-.438	+25	-.649+ 3	.08 .53 .21	$\Sigma 1263. 9^m 55'' 20^\circ$
2334	-70 1 47.12	82.0	-12.842-.023	+09	-.042 0	.13 .64 .22	
2335	- 6 52 25.02	72.9	-12.806-.325	+11	-.003 0	.10 .45 .20	31 Monocerotis
2336	+18 31 18.81	67.1	-13.058-.377	+16	-.239 0	.04 .17 .08	
2337	-47 44 23.74	77.1	-12.832-.211	+04	-.011 0	.13 .69 .26	60 G Velorum
2338	+31 3 35.44	74.6	-12.854-.408	+20	-.020 0	.11 .34 .16	46 Cancri $\sigma^1$
2339	+10 26 37.77	77.7	-12.866-.360	+14	-.026 0	.11 .35 .16	49 Cancri b
2340	-52 44 28.07	81.8	-12.833-.186	+04	+.016 0	.14 .65 .23	61 G Velorum
2341	-52 45 17.87	82.6	-12.854-.187	+04	+.002 0	.14 .67 .23	62 G Velorum
2342	-32 49 33.16	80.5	-12.851-.264	+06	+.006 0	.08 .38 .14	a Mali
2343	+ 6 2 34.79	79.8	-12.871-.350	+13	-.003 0	.11 .37 .16	10 Hydræ
2344	+67 4 29.91	70.4	-12.904-.609	+58	-.034 0	.10 .40 .19	
2345	- 2 14 16.53	83.6	-12.932-.332	+12	-.027 0	.16 .84 .27	$\Sigma 1270 5'' 260^\circ$
2346	- 2 14 15.55	65.7	-12.912-.333	+12	-.006 0	.12 .41 .22	
2347	-49 27 39.75	87.0	-12.917-.204	+04	+.005 0	.12 .59 .18	63 G Velorum D
2348	+29 7 32.64	77.8	-12.979-.400	+20	-.050 0	.04 .22 .08	$\Sigma 1268. 7^m 0 31'' 307^\circ$
2349	-42 17 13.13	82.1	-12.924-.233	+05	+.017 0	.13 .59 .21	64 G Velorum d
2350	+80 24 12.51	66.4	-12.947-1.007	+2.02	-.004+ 1	.08 .39 .19	

2322  $9^m 5$  fol. 0.9, N.  $15''$ .

2333 P.M. of comp. nearly zero.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup>	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
2351	Paris 10778	5.9	8 40 58.157	97.6	+3.0441-.0039	+.001	+.0018 0	.12	1.16	.19
2352	L 3506	5.9	41 0.908	86.8	+2.3093+.0030	+.004	-.0005 0	.16	.75	.24
2353	Br 1242	6.0	41 27.158	64.4	+3.2927-.0096	.000	-.0050 0	.11	.40	.22
2354	$\epsilon$ Hydrae <i>m</i>	3.4	41 28.872	71.6	+3.1808-.0071	+.001	-.0127 0	.03	.15	.06
2355	Br 1244	4.5	41 39.080	78.0	+2.8357-.0006	+.003	+.0017 0	.12	.46	.19
2356	$\delta$ Velorum <i>m</i>	1.7	41 56.615	70.6	+1.6584-.0021	-.001	+.0028- 1	.08	.36	.16
2357	Pi 167	5.3	42 10.888	86.0	+3.0421-.0040	+.001	-.0031 0	.08	.68	.18
2358	L 3526	3.9	42 38.229	81.6	+2.0328+.0023	+.003	-.0015 0	.13	.60	.21
2359	L 3521	6.5	42 50.951	80.2	+2.3791+.0030	+.004	-.0033 0	.16	1.04	.35
2360	Brisb 2200	5.6	43 6.388	86.1	+2.0399+.0023	+.003	-.0009 0	.18	.88	.28
2361	$\rho$ Hydrae	4.5	43 8.218	65.2	+3.1814-.0069	+.001	-.0010 0	.10	.40	.21
2362	L 3542	6.0	43 55.214	82.8	+2.0322+.0023	+.003	-.0031 0	.18	1.10	.35
2363	L 3554	4.6	44 7.383	75.5	+1.5542-.0036	-.002	-.0006 0	.15	.92	.35
2364	Br 1245	6.5	44 19.570	84.0	+3.7374-.0237	-.002	-.0057 0	.11	.48	.17
2365	Br 1249	5.3	44 20.250	68.4	+3.0169-.0036	+.002	-.0014 0	.11	.40	.20
2366	$\eta$ Chamæleontis	5.7	44 43.645	77.8	-1.9313-.2217	-.293	-.0151- 1	.12	.57	.22
2367	Br 1241	5.9	45 8.337	74.1	+4.9867-.0897	+.001	-.0014+ 1	.06	.26	.11
2368	Br 1247	5.3	45 14.311	63.2	+4.0452-.0361	-.003	+.0001 0	.10	.44	.23
2369	Br 1250	6.5	45 27.333	79.0	+3.3468-.0111	.000	-.0079+ 1	.07	.32	.12
2370	Br 1251	7.6	45 34.963	72.8	+3.3647-.0116	.000	-.0022 0	.12	.51	.22
2371	L 3549	5.3	45 47.713	83.4	+2.4368+.0030	+.004	+.0004 0	.16	.78	.26
2372	Pi 188	6.2	45 50.691	80.6	+2.5129+.0026	+.004	-.0022 0	.13	.57	.21
2373	L 3556	5.6	45 55.749	88.4	+2.2323+.0032	+.004	-.0015 0	.16	.80	.24
2374	L 3557	6.6	46 5.875	87.2	+2.2606+.0033	+.004	-.0081 0	.12	.64	.19
2375	$\gamma$ Pyxidis	4.2	46 17.258	84.9	+2.5451+.0025	+.004	-.0103 0	.11	.64	.19
2376	L 3565	5.0	46 20.118	85.5	+2.0743+.0028	+.004	-.0006 0	.16	.87	.27
2377	Br 1252	5.9	46 24.039	82.0	+3.7170-.0230	-.002	-.0006 0	.10	.45	.16
2378	Br 1253	6.5	46 27.887	74.8	+3.6167-.0195	-.001	-.0012 0	.10	.36	.16
2379	L 3644	6.3	46 37.629	82.4	-1.9404-.2262	-.307	-.0140+ 1	.15	.69	.24
2380	Br 1254	6.2	46 38.544	64.0	+3.5828-.0196	-.001	-.0365 0	.09	.32	.17
2381	Br 1256	5.7	46 39.565	83.2	+2.9502-.0024	+.002	-.0030 0	.08	.56	.17
2382	L 3572	5.2	47 9.912	83.6	+2.0337+.0025	+.004	-.0012 0	.18	1.02	.32
2383	Br 1246	6.0	48 3.269	68.3	+5.1966-.1080	+.009	-.0039- 2	.08	.39	.18
2384	Br 1255 <i>m</i>	5.6	48 8.689	80.8	+3.6708-.0216	-.001	+.0030 0	.06	.33	.11
2385	Åbo 181	7.6	48 11.072	70.6	+5.2931-.1151	+.011	+.0014- 1	.14	.66	.29
2386	L 3577	6.8	48 13.348	91.2	+2.2203+.0034	+.004	-.0012 0	.13	.96	.22
2387	L 3580	5.8	48 58.818	87.4	+2.2854+.0035	+.004	-.0043 0	.16	.96	.27
2388	L 3594	5.8	49 3.537	84.9	+1.5328-.0040	-.001	-.0015 0	.18	.84	.28
2389	L 3609	5.5	49 13.796	85.9	+0.8206-.0246	-.022	+.0127+ 5	.13	.82	.24
2390	L 3669	5.9	49 35.839	90.5	-2.0897-.2476	-.357	-.0204+ 5	.14	.98	.24
2391	Br 1258	5.5	49 40.372	72.1	+3.6030-.0195	-.001	-.0008 0	.10	.30	.15
2392	Pi 202	6.1	50 3.924	59.8	+4.0825-.0398	-.002	-.0105 0	.14	.52	.30
2393	$\zeta$ Hydrae	3.2	50 6.502	81.1	+3.1746-.0070	+.001	-.0069 0	.04	.24	.08
2394	Br 1262 -	5.8	50 28.008	55.1	+3.2813-.0096	+.001	-.0002 0	.11	.36	.23
2395	L 3596	5.4	50 29.278	86.2	+2.0110+.0025	+.004	-.0016 0	.14	.69	.21
2396	Br 1264 <sup>1</sup> N *	7.2	50 35.522	74.3	+2.9417-.0021	+.003	+.0003 0	.15	.66	.28
2397	Br 1264 <sup>2</sup> S *	6.9	50 35.552	67.6	+2.9419-.0021	+.003	+.0005 0	.12	.52	.26
2398	Br 1259	5.7	50 46.436	76.2	+3.7130-.0238	-.001	-.0045 0	.11	.50	.20
2399	$\delta$ Pyxidis	5.0	51 14.178	81.5	+2.5712+.0025	+.004	+.0048 0	.11	.64	.22
2400	Br 1265	5.3	8 51 40.358	73.1	+3.3517-.0115	.000	+.0041 0	.12	.45	.21

2354  $\Sigma$  1273.  $3^M 9-4^M 4 < 0''.5$ , binary, 15 yrs.  $\pm$ ; also,  $8^M 3'' 233^\circ$ .2381  $\beta$  587.  $7^M 7 0''.8 143^\circ$ , slow.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
2351	- 1 41 7.86	95.6	-12.906-.333	+ .12	+ .045 0	.11	.89	.17	
2352	-36 47 2.37	88.8	-12.956-.251	+ .06	-.002 0	.15	.86	.24	27 G Pyxidis
2353	+12 28 36.78	60.7	-13.048-.360	+ .14	-.065+ 1	.10	.42	.23	50 Cancr $A^2$
2354	+ 6 47 8.64	70.9	-13.038-.346	+ .13	-.054+ 1	.03	.15	.06	$\Sigma$ 1273 *
2355	-13 10 55.54	77.0	-13.016-.309	+ .09	-.019 0	.10	.42	.17	12 Hydræ
2356	-54 20 31.84	73.9	-13.109-.179	+ .04	-.093 0	.07	.34	.14	Innes. 5 <sup>m</sup> 2 2" 174°
2357	- 1 31 50.35	81.4	-13.037-.331	+ .12	-.006 0	.08	.51	.17	61 G Hydræ
2358	-45 40 32.81	79.9	-13.075-.219	+ .05	-.013 0	.10	.50	.18	66 G Velorum $a$
2359	-34 15 22.52	73.2	-13.068-.257	+ .06	+ .008 0	.15	1.04	.41	29 G Hydræ
2360	-45 32 45.04	83.3	-13.126-.220	+ .05	-.033 0	.14	.71	.24	L (3530) 68 G Velorum
2361	+ 6 12 25.80	62.5	-13.132-.345	+ .13	-.037 0	.10	.36	.20	Clark 12 <sup>m</sup> 12" 146°
2362	-45 47 14.00	82.2	-13.157-.218	+ .05	-.010 0	.14	.94	.30	69 G Velorum
2363	-56 24 7.81	74.1	-13.161-.165	+ .04	-.001 0	.13	.71	.29	103 G Carinæ $f$
2364	+33 39 32.08	76.3	-13.261-.404	+ .21	-.088+ 1	.10	.36	.16	
2365	- 3 4 18.92	71.2	-13.198-.326	+ .12	-.024 0	.09	.40	.18	67 G Hydræ
2366	-78 36 1.08	76.7	-13.167+.219	+ .45	+ .033+ 2	.10	.49	.19	
2367	+62 20 11.19	71.7	-13.208-.540	+ .46	+ .019 0	.06	.21	.10	5 Ursæ Maj $b$
2368	+44 5 55.83	55.7	-13.197-.437	+ .26	+ .037 0	.10	.36	.22	35 Lyncis
2369	+15 43 17.34	74.1	-13.180-.360	+ .15	+ .068+ 1	.07	.28	.12	54 Cancr
2370	+16 22 20.03	69.4	-13.246-.362	+ .16	+ .010 0	.12	.45	.22	52 Cancr
2371	-32 24 25.24	76.0	-13.323-.261	+ .07	-.053 0	.15	.65	.27	33 G Pyxidis
2372	-29 5 26.50	79.7	-13.270-.269	+ .07	+ .003 0	.11	.46	.18	34 G Pyxidis
2373	-39 56 52.38	85.6	-13.300-.238	+ .05	-.021 0	.14	.67	.22	74 G Velorum
2374	-38 46 12.64	85.8	-13.264-.240	+ .05	+ .026+ 1	.14	.69	.22	75 G Velorum
2375	-27 20 20.37	82.8	-13.221-.271	+ .08	+ .081+ 1	.10	.47	.16	(Mali $c$ )
2376	-44 56 8.24	80.7	-13.298-.220	+ .05	+ .007 0	.13	.64	.23	76 G Velorum $g$
2377	+32 50 56.02	75.2	-13.302-.399	+ .21	+ .008 0	.09	.35	.15	51 Cancr
2378	+28 38 4.14	72.8	-13.329-.388	+ .20	-.015 0	.09	.34	.15	53 Cancr ( $\rho^1$ )
2379	-78 42 13.24	79.2	-13.278+.219	+ .45	+ .046+ 2	.12	.53	.20	9 G Chamæleontis
2380	+28 42 45.98	59.1	-13.571-.381	+ .20	-.245+ 4	.08	.29	.17	55 Cancr ( $\rho^1$ or $\rho^2$ )
2381	- 6 48 9.30	75.0	-13.329-.315	+ .11	-.003 0	.08	.41	.17	15 Hydræ *
2382	-46 9 18.70	77.6	-13.380-.215	+ .05	-.020 0	.14	.69	.26	78 G Velorum $f$ *
2383	+64 59 11.71	65.6	-13.503-.557	+ .52	-.085 0	.07	.27	.14	6 Ursæ Maj
2384	+30 57 29.19	75.9	-13.456-.392	+ .21	-.033 0	.06	.28	.11	57 Cancr $\sigma^2$ *
2385	+65 54 23.70	66.7	-13.458-.568	+ .55	-.032 0	.11	.52	.25	
2386	-40 36 37.57	88.5	-13.435-.234	+ .05	-.007 0	.11	.69	.18	79 G Velorum
2387	-38 20 48.28	83.5	-13.462-.240	+ .06	+ .016 0	.14	.69	.23	81 G Velorum
2388	-57 15 25.71	80.7	-13.462-.159	+ .04	+ .021 0	.14	.64	.23	104 G Carinæ
2389	-66 25 10.81	85.3	-13.404-.084	+ .05	+ .090- 1	.11	.73	.21	43 G Volantis
2390	-79 8 3.44	86.2	-13.430+.233	+ .50	+ .088+ 2	.11	.64	.19	11 G Chamæleontis
2391	+28 18 33.41	70.8	-13.561-.382	+ .20	-.039 0	.09	.31	.15	58 Cancr ( $\rho^2$ or $\rho^3$ )
2392	+46 0 54.78	56.4	-13.594-.432	+ .28	-.046+ 1	.14	.51	.31	
2393	+ 6 19 34.22	81.1	-13.541-.335	+ .14	+ .009+ 1	.04	.24	.08	
2394	+12 0 29.21	54.1	-13.595-.346	+ .15	-.021 0	.08	.33	.20	60 Cancr
2395	-47 8 24.80	83.0	-13.617-.210	+ .05	-.042 0	.11	.52	.18	84 G Velorum
2396	- 7 35 15.36	75.4	-13.622-.310	+ .11	-.040 0	.11	.63	.24	$\Sigma$ 1295. 4" 359°
2397	- 7 35 20.10	64.9	-13.616-.310	+ .11	-.034 0	.09	.37	.19	17 Hydræ
2398	+33 17 42.59	69.9	-13.674-.392	+ .22	-.081 0	.10	.43	.20	59 Cancr
2399	-27 17 49.26	79.0	-13.733-.270	+ .08	-.110 0	.10	.46	.17	
2400	+15 42 22.48	65.7	-13.634-.352	+ .16	+ .017 0	.11	.40	.21	62 Cancr $\sigma^1$

2382 10<sup>m</sup> 3" 84°.2384  $\Sigma$  1291. 6<sup>m</sup> 1-6<sup>m</sup> 6 1" 4 326°, very slow.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
		M	h m s		s s	s	s	"	"	"
2401	Br 1263	6.5	8 51 54.298	73.1	+3.6563-.0215	.000	+ .0053 0	.12	.46	.21
2402	Br 1266	5.9	52 0.170	65.9	+3.3562-.0116	.000	+ .0042 0	.11	.44	.22
2403	L 3614	5.9	52 21.571	92.7	+1.7036-.0012	.000	+ .0036- 1	.20	1.18	.28
2404	$\epsilon$ Ursæ Maj	3.1	52 21.819	69.6	+4.1291-.0445	-.001	-.0438+ 1	.03	.14	.06
2405	L 3605	7.2	52 26.676	93.1	+2.3260+.0035	+ .005	-.0181- 1	.13	.99	.21
2406	L 3626	3.9	52 46.874	86.7	+1.3634-.0077	-.005	-.0034+ 1	.13	.90	.25
2407	$\alpha$ Cancr	4.4	53 1.142	75.5	+3.2861-.0098	+ .001	+ .0025 0	.03	.16	.06
2408	L 3620	4.7	53 18.165	87.0	+1.8123+.0007	+ .002	-.0003 0	.20	.86	.28
2409	Br 1267	5.6	53 24.295	71.2	+3.6955-.0235	-.001	-.0033 0	.13	.69	.30
2410	Pi 224	6.7	53 31.957	75.3	+3.3949-.0132	.000	-.0029 0	.13	.54	.23
2411	$\rho$ Ursæ Maj	5.1	53 32.001	81.3	+5.4762-.1359	+ .027	-.0026+ 1	.06	.33	.11
2412	Pi 227	6.2	54 2.331	87.1	+2.8159+.0005	+ .004	+ .0169+ 1	.08	.68	.18
2413	Br 1268	4.0	54 9.044	76.3	+3.9114-.0343	-.001	-.0388 0	.04	.20	.08
2414	L 3639	5.3	54 31.636	72.7	+1.4708-.0054	-.003	-.0016 0	.10	.44	.19
2415	Radcl 2218	6.5	54 32.25	79.1	+13.283-.1669		+ .010+ 2	.06	.42	.15
2416	L 3628	6.0	54 36.489	81.3	+1.9888+.0026	+ .004	-.0026 0	.16	1.02	.34
2417	Br 1270	6.1	55 16.271	73.5	+3.6897-.0235	-.001	-.0004 0	.09	.34	.16
2418	L 3635	5.3	55 28.534	83.8	+2.0330+.0030	+ .004	-.0116 0	.20	1.06	.34
2419	Br 1273	6.3	55 51.258	66.8	+3.5858-.0198	.000	-.0044 0	.15	.54	.28
2420	Br 1274	7.5	56 6.937	82.5	+3.3730-.0126	+ .001	-.0018 0	.12	.39	.16
2421	L 3638	4.3	56 21.405	84.2	+2.2367+.0040	+ .005	-.0052 0	.12	.57	.19
2422	L 3631	7.3	56 28.388	87.3	+2.6493+.0022	+ .004	-.0006 0	.13	.94	.25
2423	Groomb 1501	5.9	56 40.955	87.2	+4.4255-.0604	+ .003	+ .0004 0	.06	.40	.11
2424	$\kappa$ Ursæ Maj	3.6	56 48.039	77.8	+4.1169-.0435	.000	-.0030 0	.03	.19	.07
2425	Pulk <sub>ss</sub> 1436	6.0	56 51.473	94.6	+3.0677-.0045	+ .003	-.0031 0	.11	.70	.15
2426	$\nu$ Cancr	5.6	56 53.566	66.2	+3.5158-.0172	.000	.0000 0	.09	.44	.21
2427	L 3661	5.2	56 56.981	75.2	+1.4738-.0044	-.002	-.0236+ 2	.11	.50	.21
2428	L 3651	5.7	57 37.979	89.0	+2.2244+.0040	+ .005	-.0041 0	.20	.94	.28
2429	Br 1278	6.8	58 12.361	80.7	+3.5849-.0199	+ .001	-.0001 0	.11	.36	.16
2430	Åbo 185	7.0	58 16.693	77.3	+4.2458-.0513	+ .002	-.0116 0	.11	.60	.22
2431	L 3673	6.0	58 27.643	90.6	+1.3843-.0076	-.005	-.0017 0	.20	1.04	.28
2432	Groomb 1508	5.8	58 30.213	88.1	+4.1631-.0463	+ .001	-.0007 0	.13	.48	.17
2433	L 3667	5.5	58 38.221	81.3	+1.8626+.0016	+ .003	-.0019 0	.18	.88	.31
2434	Br 1271	5.5	59 37.102	76.8	+5.3294-.1302	+ .033	-.0030- 1	.07	.33	.13
2435	L 3694	6.0	8 59 59.998	91.7	+0.6984-.0326	-.031	-.0005 0	.18	1.16	.28
2436	Br 1281	8.3	9 0 8.856	80.2	+3.3740-.0129	+ .001	-.0014 0	.09	.36	.14
2437	Pi 245	4.8	0 10.203	77.4	+3.8300-.0304	+ .001	-.0030 0	.08	.32	.13
2438	L 3677	3.5	0 42.296	76.5	+2.0658+.0035	+ .005	-.0068- 1	.12	.62	.24
2439	$\omega$ Hydræ	5.5	0 42.533	57.2	+3.1615-.0068	+ .002	-.0014 0	.14	.39	.25
2440	$\alpha$ Volantis	4.1	0 52.100	77.3	+0.9559-.0223	-.019	-.0023- 3	.10	.54	.21
2441	Br 1276	5.0	1 35.955	73.0	+5.3415-.1333	+ .037	-.0009- 2	.04	.21	.09
2442	Dpt 1079	7.3	1 41.153	74.3	+3.4662-.0164	+ .001	-.0117 0	.16	.70	.30
2443	Br 1280	4.5	1 49.174	78.5	+4.2588-.0535	+ .003	-.0138+ 1	.08	.28	.12
2444	$\tau$ Cancr	5.7	1 59.944	66.7	+3.6124-.0215	+ .001	-.0020 0	.14	.58	.29
2445	$\kappa$ Cancr	5.3	2 19.907	75.5	+3.2541-.0094	+ .002	-.0013 0	.03	.20	.08
2446	$\tau$ Ursæ Maj	4.8	2 40.696	68.4	+4.9958-.1040	+ .023	+ .0154- 4	.09	.34	.17
2447	Br 1286	6.3	2 54.447	67.6	+3.5399-.0195	+ .001	-.0087- 2	.09	.33	.17
2448	Br 1290	7.7	3 25.974	78.8	+3.3692-.0130	+ .001	-.0033 0	.12	.36	.16
2449	$\xi$ Cancr	5.3	3 36.660	66.5	+3.4569-.0159	+ .001	+ .0003 0	.06	.32	.15
2450	$\kappa$ Pyxidis	4.9	9 3 39.487	78.1	+2.6326+.0028	+ .005	+ .0029 0	.10	.52	.20

2401 Hough 252.  $7^m 3-7^m 3$  0".3.  
2414  $7^m$  fols. 5<sup>th</sup>, N 11".

2417  $\Sigma$  1298.  $8^m 5''$  137".  
2433 h 4165.  $7^m 1''$  102", very slow.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
2401	+30 37 4.15	64.5	-13.654-.385	+21	+0.012-1	.12	.40	.22	61 Cancri $\sigma^3$ *
2402	+15 57 55.10	61.6	-13.650-.352	+16	+0.022 0	.10	.40	.22	63 Cancri $\sigma^2$
2403	-54 34 49.52	91.2	-13.793-.176	+04	-.098 0	.17	1.05	.26	87 G Velorum
2404	+48 26 3.76	66.4	-13.944-.429	+30	-.249+5	.03	.13	.06	O $\Sigma$ 196. $9^m 8'' 5 359^\circ$
2405	-36 44 18.07	92.4	-13.714-.240	+06	-.014+2	.15	.88	.22	
2406	-60 15 44.94	81.8	-13.665-.139	+04	+0.057 0	.10	.56	.19	108 G Carinae <i>c</i>
2407	+12 14 41.61	73.8	-13.776-.343	+15	-.039 0	.03	.18	.07	
2408	-52 20 21.16	79.3	-13.766-.186	+04	-.011 0	.14	.58	.23	88 G Velorum <i>H</i>
2409	+32 48 25.41	56.6	-13.810-.385	+22	-.048 0	.12	.54	.31	64 Cancri
2410	+18 31 26.62	72.4	-13.849-.354	+17	-.079 0	.12	.51	.23	
2411	+68 1 9.87	75.6	-13.755-.574	+61	+0.015 0	.05	.24	.10	
2412	-15 45 4.48	81.7	-13.587-.294	+10	+0.215-2	.09	.58	.19	88 G Hydræ
2413	+42 10 43.66	73.0	-14.070-.404	+26	-.261+4	.05	.22	.09	10 Ursæ Maj
2414	-58 50 35.55	74.2	-13.831-.149	+04	+0.002 0	.08	.40	.17	109 G Carinae <i>b</i> <sup>1</sup> *
2415	+84 34 58.63	85.2	-13.815-1.397	+19	-.019-1	.09	.51	.16	
2416	-48 11 9.77	79.0	-13.864-.203	+05	-.026 0	.13	.77	.27	89 G Velorum
2417	+32 38 34.96	70.5	-13.885-.382	+22	-.005 0	.08	.30	.14	66 Cancri *
2418	-46 50 50.82	79.4	-13.851-.207	+05	+0.042+1	.14	.65	.24	90 G Velorum
2419	+28 17 47.31	61.8	-14.004-.370	+20	-.088 0	.13	.51	.28	67 Cancri
2420	+17 28 23.68	77.2	-13.950-.347	+17	-.017 0	.11	.35	.16	68 Cancri
2421	-40 51 51.87	79.0	-13.915-.228	+06	+0.033+1	.12	.51	.20	91 G Velorum <i>w</i>
2422	-23 45 45.10	87.9	-13.963-.271	+09	-.008 0	.13	1.10	.28	45 G Pyxidis
2423	+54 40 40.99	80.8	-13.971-.457	+36	-.002 0	.07	.40	.14	
2424	+47 33 7.51	74.1	-14.042-.424	+30	-.066 0	.03	.15	.06	
2425	- 0 5 30.81	92.3	-13.901-.314	+13	+0.079 0	.10	.53	.14	
2426	+24 50 47.44	70.2	-13.987-.361	+19	-.005 0	.08	.37	.17	
2427	-58 42 3.27	75.0	-13.715-.145	+04	+0.270+2	.09	.43	.17	110 G Carinae <i>b</i> <sup>2</sup>
2428	-41 28 18.31	84.7	-14.030-.225	+06	-.002 0	.15	.71	.23	93 G Velorum
2429	+28 17 38.55	76.5	-14.072-.366	+20	-.008 0	.10	.33	.15	70 Cancri
2430	+51 13 20.60	74.3	-14.143-.434	+32	-.075+1	.09	.46	.19	
2431	-60 34 15.40	78.5	-14.089-.137	+04	-.009 0	.14	.57	.23	111 G Carinae
2432	+48 55 40.07	85.0	-14.102-.426	+30	-.020 0	.14	.42	.18	
2433	-51 47 41.85	74.8	-14.078-.187	+05	+0.013 0	.14	.61	.26	94 G Velorum *
2434	+67 16 29.34	74.3	-14.199-.544	+59	-.047 0	.06	.27	.11	11 Ursæ Maj $\sigma^1$
2435	-68 17 21.03	89.1	-14.184-.066	+06	-.009 0	.14	.92	.24	45 G Volantis
2436	+17 47 20.72	75.9	-14.195-.342	+17	-.011 0	.08	.31	.13	71 Cancri
2437	+38 51 7.01	72.6	-14.212-.388	+25	-.025 0	.07	.28	.12	
2438	-46 41 58.75	73.0	-14.243-.206	+05	-.024+1	.10	.46	.20	97 G Velorum <i>c</i>
2439	+ 5 29 31.20	57.7	-14.222-.319	+14	-.003 0	.13	.49	.29	
2440	-65 59 48.68	76.6	-14.331-.092	+05	-.102 0	.09	.46	.18	
2441	+67 32 26.09	69.7	-14.344-.541	+60	-.070 0	.04	.23	.10	13 Ursæ Maj $\sigma^2$ *
2442	+23 22 56.00	63.6	-14.279-.347	+19	.000+1	.12	.46	.24	$\Sigma$ 1311. $7^m 7'' 200^\circ$
2443	+52 0 29.98	64.2	-14.327-.428	+33	-.040+1	.09	.25	.15	15 Ursæ Maj <i>f</i>
2444	+30 3 22.69	60.8	-14.307-.363	+21	-.009 0	.11	.44	.24	
2445	+11 4 14.54	73.9	-14.330-.326	+15	-.011 0	.04	.18	.07	
2446	+63 55 13.48	69.8	-14.409-.505	+50	-.069-2	.07	.30	.14	
2447	+27 2 34.33	62.2	-14.741-.353	+20	-.387+1	.08	.33	.18	75 Cancri
2448	+17 52 29.16	74.5	-14.428-.336	+17	-.042 0	.11	.34	.16	78 Cancri
2449	+22 26 59.63	61.0	-14.404-.345	+18	-.007 0	.05	.23	.12	
2450	-25 27 17.96	79.6	-14.408-.261	+09	-.008 0	.10	.45	.17	

2441  $\Sigma$  1306.  $8^m 5 1'' 200^\circ$ , slow binary.



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
2451	Br 1292	5.6	9 3 48.529	82.6	+2.9369-.0018	+0.003	-.0018 0	.08	.42	.14
2452	$\lambda$ Velorum	1.8	4 19.072	71.4	+2.2046+.0045	+0.005	-.0024 0	.08	.33	.15
2453	Paris 11266	6.0	4 23.785	96.0	+2.8765-.0006	+0.003	+0.0003 0	.14	1.02	.20
2454	Lal 18091	6.0	4 27.331	99.1	+2.7699+.0011	+0.004	-.0028 0	.12	.75	.14
2455	Br 1291	6.3	4 36.238	65.4	+3.4546-.0159	+0.001	+0.0006 0	.10	.46	.23
2456	Br 1294	5.8	4 42.150	72.6	+2.9339-.0017	+0.003	-.0021 0	.14	.48	.23
2457	L 3730	4.8	4 49.509	91.0	+0.5111-.0433	-.044	-.0012 0	.20	1.05	.28
2458	L 3736	4.4	4 52.943	80.0	+0.1868-.0625	-.070	-.0055- 2	.13	.63	.22
2459	Pi 5	7.2	5 22.293	83.0	+2.6334+.0029	+0.005	-.0009 0	.14	.70	.23
2460	$\epsilon$ Pyxidis	5.7	5 42.096	75.5	+2.5413+.0037	+0.005	-.0001 0	.10	.51	.20
2461	Groomb 1517	6.1	5 50.400	78.3	+6.1352-.2235	+0.119	-.0175 0	.09	.54	.19
2462	Br 1296	7.0	6 19.962	72.4	+3.3765-.0134	+0.002	-.0024 0	.08	.36	.16
2463	Br 1288	5.4	6 26.442	71.0	+4.7869-.0912	+0.020	-.0002- 1	.08	.33	.15
2464	Br 1298	6.7	6 49.280	66.1	+3.2885-.0113	+0.002	-.0363+ 2	.08	.30	.16
2465	Br 1295	5.4	7 15.921	81.0	+3.9421-.0376	+0.003	-.0021 0	.06	.34	.12
2466	Pi 13	6.0	7 23.897	84.2	+2.7466+.0016	+0.004	-.0050 0	.10	1.02	.28
2467	L 3723	5.0	7 26.666	85.5	+2.1743+.0046	+0.006	-.0013 0	.16	.78	.25
2468	Br 1301	6.3	7 29.778	73.6	+2.9642-.0022	+0.003	-.0008 0	.12	.54	.23
2469	Radcl 2290	7.7	7 33.837	86.0	+4.1153-.0552	+0.007	-.1741+ 10	.09	.57	.16
2470	Radcl 2291	7.9	7 35.769	86.9	+4.1178-.0555	+0.007	-.1715+ 9	.11	.62	.18
2471	Br 1299	6.6	7 54.640	71.9	+3.4344-.0155	+0.002	-.0007 0	.09	.48	.20
2472	L 3727	6.0	8 0.994	80.5	+2.1201+.0044	+0.006	-.0027 0	.18	.90	.32
2473	L 3738	3.4	8 20.064	80.2	+1.5788-.0030	-.001	-.0052- 1	.11	.58	.20
2474	Br 1293	5.6	8 25.491	71.3	+4.4803-.0703	+0.012	-.0012 0	.10	.34	.17
2475	L 3729	5.8	8 48.546	89.9	+2.2178+.0049	+0.006	-.0018 0	.20	.96	.27
2476	Br 1297	5.0	8 59.737	59.7	+4.3481-.0611	+0.009	+0.0070 0	.09	.30	.18
2477	L 3753	4.1	9 0.442	81.9	+1.3662-.0084	-.006	-.0067- 1	.12	.64	.22
2478	Br 1300	6.2	9 6.036	68.2	+3.6966-.0265	+0.002	-.0118+ 1	.10	.42	.20
2479	$\theta$ Hydræ	4.0	9 9.735	76.2	+3.1244-.0060	+0.003	+0.0087- 1	.04	.20	.08
2480	$\pi$ Cancri	5.7	9 42.669	65.2	+3.3182-.0117	+0.002	-.0025 0	.08	.38	.19
2481	L 3743	6.0	10 3.774	88.4	+2.1045+.0045	+0.006	-.0024 0	.16	1.18	.30
2482	L 3760	5.7	10 18.561	88.7	+1.5710-.0032	-.001	-.0008 0	.18	.98	.27
2483	L 3749	5.4	10 40.585	86.7	+2.2355+.0051	+0.006	-.0031 0	.16	.78	.24
2484	Pi 19	6.2	10 48.703	65.4	+4.0468-.0440	+0.004	+0.0020 0	.15	.57	.29
2485	L 3748	6.2	10 57.835	85.7	+2.3904+.0050	+0.006	-.0001 0	.13	.64	.20
2486	$\zeta$ Octantis	5.5	11 14.45	78.7	-7.860-.1.629		-.101- 66	.05	.40	.14
2487	L 3762	5.2	11 20.044	85.2	+1.7802+.0010	+0.003	-.0035 0	.16	.78	.25
2488	L 3750	7.3	11 25.244	88.8	+2.4944+.0045	+0.006	+0.0024 0	.14	.98	.25
2489	L 3756	4.9	11 40.205	81.2	+2.3621+.0050	+0.006	-.0066 0	.11	.44	.16
2490	Br 1307	5.6	11 43.739	67.8	+2.9795-.0024	+0.004	+0.0003 0	.12	.52	.25
2491	L 3755	4.7	11 44.945	86.1	+2.3996+.0051	+0.006	+0.0019 0	.13	.64	.20
2492	Br 1308	5.7	11 47.393	71.8	+2.9386-.0016	+0.004	-.0027 0	.12	.51	.23
2493	$\beta$ Carinæ	1.5	12 6.214	67.0	+0.6750-.0358	-.037	-.0313- 2	.06	.32	.15
2494	Dpt 1101 <i>m</i>		12 16.071	93.3	+3.7124-.0276	+0.002	-.0037 0	.15	.66	.19
2495	Br 1305	3.9	12 37.411	74.9	+3.7476-.0294	+0.003	-.0021- 1	.04	.22	.09
2496	Br 1311	7.7	12 40.410	72.1	+2.8882-.0005	+0.004	-.0021 0	.15	.70	.31
2497	L 3764	5.0	12 41.192	87.5	+2.2135+.0052	+0.006	-.0027 0	.18	1.11	.31
2498	Br 1302	7.8	12 50.427	73.6	+4.6333-.0837	+0.020	+0.0057- 1	.11	.38	.18
2499	L 3765	5.3	13 1.821	83.4	+2.3500+.0052	+0.006	-.0023 0	.18	.94	.31
2500	L 3782	4.1	9 13 22.621	86.8	+1.6945-.0005	+0.002	-.0036- 1	.18	.86	.27

2459  $\beta$  410. 8<sup>M</sup>6 1<sup>h</sup>8 162°.2460 h 4183. 9<sup>M</sup>5 18<sup>h</sup> 157°.

2469 Lal 18115.

2475 h 4188. 7<sup>M</sup>5 2<sup>h</sup>7 284°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. 6 Ep. 100 $\mu'$ 6 10	Remarks.
2451	— 8 11 6.52	81.4	—14.426— .291	+ .11	— .017 0	.07 .37 .13	19 Hydræ
2452	— 43 1 43.75	71.6	—14.435— .217	+ .05	+ .005 0	.07 .30 .13	
2453	— 11 57 9.30	89.6	—14.470— .285	+ .11	— .024 0	.12 .85 .21	
2454	— 17 55 25.83	98.2	—14.449— .273	+ .10	— .001 0	.13 .81 .16	
2455	+ 22 24 8.89	61.2	—14.462— .343	+ .18	— .005 0	.09 .42 .22	79 Cancrī
2456	— 8 22 54.15	71.5	—14.482— .290	+ .12	— .019 0	.11 .39 .19	20 Hydræ
2457	— 70 8 9.33	83.9	—14.465— .045	+ .08	+ .005 0	.15 .69 .23	115 G Carinæ <i>E</i>
2458	— 72 12 0.79	78.8	—14.482— .012	+ .11	— .008 + 1	.10 .51 .19	116 G Carinæ <i>G</i>
2459	— 25 23 48.79	78.7	—14.500— .259	+ .09	+ .004 0	.12 .60 .22	54 G Pyxidīs *
2460	— 29 57 25.26	75.4	—14.562— .249	+ .08	— .038 0	.11 .44 .19	ε Mali *
2461	+ 73 21 35.52	76.1	—14.598— .608	+ .87	— .066 + 2	.08 .42 .16	
2462	+ 18 27 13.45	68.9	—14.592— .332	+ .18	— .030 0	.07 .31 .15	80 Cancrī
2463	+ 61 50 7.18	67.2	—14.600— .474	+ .46	— .032 0	.08 .27 .14	16 Ursæ Maj <i>c</i>
2464	+ 15 23 56.42	68.9	—14.356— .319	+ .16	+ .235 + 4	.08 .31 .15	81 Cancrī ( $\pi^1$ )
2465	+ 43 37 48.00	75.6	—14.664— .387	+ .27	— .047 0	.06 .27 .11	36 Lyncis
2466	— 19 20 20.20	83.2	—14.594— .267	+ .09	+ .031 0	.10 .73 .22	107 G Hydræ
2467	— 44 27 31.25	79.6	—14.628— .210	+ .05	.000 0	.13 .56 .21	103 G Velorum
2468	— 6 41 59.14	70.7	—14.606— .289	+ .12	+ .025 0	.10 .38 .18	106 G Hydræ
2469	+ 53 6 53.10	86.1	—15.231— .388	+ .34	— .596 + 16	.08 .57 .16	} $\Sigma$ 1321. Slow binary * Parallax 0".20
2470	+ 53 7 1.38	84.0	—15.317— .389	+ .34	— .680 + 16	.10 .55 .17	
2471	+ 21 41 42.42	70.9	—14.681— .335	+ .18	— .025 0	.08 .40 .18	
2472	— 46 10 26.39	82.6	—14.668— .204	+ .05	— .006 0	.16 .91 .30	105 G Velorum
2473	— 58 33 26.38	78.6	—14.686— .150	+ .04	— .005 0	.09 .47 .18	117 G Carinæ <i>a</i>
2474	+ 57 9 22.18	64.2	—14.722— .438	+ .38	— .035 0	.09 .27 .15	17 Ursæ Maj
2475	— 43 12 7.52	84.2	—14.718— .213	+ .06	— .008 0	.15 .71 .24	106 G Velorum *
2476	+ 54 26 5.79	56.4	—14.661— .425	+ .35	+ .060 — 1	.07 .27 .16	18 Ursæ Maj <i>e</i>
2477	— 61 54 23.64	78.6	—14.716— .128	+ .04	+ .005 + 1	.10 .49 .18	119 G Carinæ <i>i</i>
2478	+ 35 2 45.87	65.6	—14.693— .358	+ .23	+ .034 + 1	.09 .40 .20	
2479	+ 2 44 10.39	78.4	—15.042— .304	+ .14	— .312 — 1	.04 .19 .07	
2480	+ 15 21 22.67	65.3	—14.781— .321	+ .16	— .018 0	.08 .35 .17	
2481	— 46 55 31.25	84.0	—14.795— .201	+ .05	— .011 0	.13 .80 .24	110 G Velorum
2482	— 59 0 4.28	81.5	—14.802— .148	+ .04	— .004 0	.14 .64 .23	121 G Carinæ
2483	— 42 48 47.68	81.6	—14.821— .213	+ .06	— .001 0	.14 .60 .22	112 G Velorum <i>z</i> *
2484	+ 47 14 2.86	56.3	—14.820— .391	+ .29	+ .008 0	.13 .51 .30	
2485	— 37 11 12.13	81.0	—14.851— .228	+ .07	— .014 0	.12 .51 .19	113 G Velorum
2486	— 85 15 46.89	79.8	—14.820 + .786		+ .033 + 10	.05 .37 .12	
2487	— 55 9 19.21	82.6	—14.845— .168	+ .04	+ .014 0	.13 .61 .21	114 G Velorum
2488	— 32 54 25.56	83.1	—14.897— .238	+ .08	— .033 0	.17 1.05 .33	
2489	— 38 9 11.15	76.7	—14.879— .224	+ .07	— .001 + 1	.11 .43 .18	115 G Velorum <i>l</i>
2490	— 5 56 9.28	69.1	—14.882— .285	+ .13	.000 0	.10 .40 .19	23 Hydræ
2491	— 36 59 46.33	80.0	—14.885— .228	+ .07	— .002 0	.12 .49 .19	117 G Velorum <i>k</i>
2492	— 8 19 38.66	72.1	—14.886— .280	+ .12	— .001 0	.10 .40 .18	24 Hydræ
2493	— 69 18 18.94	70.7	—14.806— .056	+ .07	+ .098 + 3	.06 .29 .13	
2494	+ 35 47 1.89	76.6	—14.949— .355	+ .23	— .036 0	.10 .39 .16	*
2495	+ 37 13 32.78	73.8	—15.069— .358	+ .24	— .135 0	.04 .21 .09	38 Lyncis *
2496	— 11 32 31.71	69.5	—14.992— .274	+ .11	— .055 0	.12 .44 .22	25 Hydræ
2497	— 43 50 52.98	82.7	—14.954— .208	+ .06	— .016 0	.15 .88 .28	118 G Velorum
2498	+ 60 12 9.10	72.6	—14.974— .445	+ .42	— .027 — 1	.08 .32 .15	20 Ursæ Maj
2499	— 38 58 55.67	83.3	—15.009— .222	+ .07	— .051 0	.15 .80 .26	120 G Velorum
2500	— 57 7 22.31	79.5	—15.000— .157	+ .04	— .022 0	.14 .59 .23	125 G Carinæ <i>g</i>

2483 h 4191. 11<sup>M</sup> 5"6 12°.2494  $\Sigma$  1333. 6<sup>M</sup>6—6<sup>M</sup>9 1"6 45°, very slow.2495  $\Sigma$  1334. 6<sup>M</sup>6 2"8 235°.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup>	$\mu$ and $100 \Delta \mu$	Prob. Errors. $\alpha$ Ep. $100 \mu$ $\alpha 10$		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
2501	Br 1309	6.9	9 13 24.061	75.9	+3.3551-.0135	+.002	-.0081 0	.03	.21	.08
2502	Br 1306	6.4	13 47.407	66.3	+4.1901-.0536	+.007	-.0041+ 2	.11	.40	.21
2503	$\epsilon$ Carinæ	2.0	14 24.802	68.4	+1.6065-.0023	.000	-.0034 0	.06	.33	.15
2504	L 3786	5.4	14 46.194	85.6	+1.9934+.0040	+.005	-.0038 0	.14	.64	.21
2505	Pi 52	6.1	14 49.906	87.8	+2.8326+.0007	+.005	+.0034 0	.16	1.11	.30
2506	Br 1314	5.0	14 57.414	69.0	+2.8908-.0004	+.004	-.0014 0	.12	.40	.20
2507	$\alpha$ Lyncis	3.3	14 57.899	75.1	+3.6676-.0265	+.003	-.0176+ 1	.03	.18	.07
2508	Br 1313	7.5	15 21.723	76.8	+3.4977-.0186	+.003	+.0041- 1	.10	.39	.16
2509	L 3794	6.0	15 24.094	87.7	+1.9745+.0038	+.006	-.0064- 1	.20	1.42	.37
2510	Br 1316	7.2	15 28.193	75.7	+2.9296-.0012	+.004	-.0006 0	.15	.70	.28
2511	Br 1317	5.0	15 36.059	71.5	+2.9297-.0012	+.004	-.0014 0	.13	.51	.24
2512	Br 1310	7.5	15 43.215	73.2	+4.1162-.0501	+.008	-.0014 0	.10	.44	.19
2513	L 3811	5.5	15 53.420	88.0	+0.8493-.0291	-.027	-.0222- 5	.20	.93	.28
2514	L 3809	6.0	16 8.372	90.1	+1.0432-.0204	-.019	-.0015 0	.20	1.00	.28
2515	L 3790 <sup>1</sup>	7.6	16 30.272	82.8	+2.5376+.0046	+.006	-.0022 0	.14	.75	.24
2516	$\theta$ Pyxidis	5.0	17 3.944	80.2	+2.6541+.0035	+.006	-.0015 0	.07	.38	.13
2517	L 3846 <i>m</i>	5.5	17 36.067	84.0	-0.0634-.0878	-.118	-.0055 0	.18	.78	.27
2518	Br 1318	6.7	17 44.676	65.5	+3.4797-.0185	+.003	-.0092 0	.15	.51	.27
2519	L 3803	5.8	18 0.446	93.4	+2.3006+.0058	+.007	+.0034 0	.16	1.17	.25
2520	Br 1319	7.1	18 18.756	71.6	+3.5024-.0192	+.003	+.0009 0	.10	.44	.19
2521	L 3823	4.8	18 32.734	91.2	+1.4451-.0065	-.004	-.0009 0	.18	1.06	.27
2522	Br 1315	8.0	18 33.079	65.3	+4.2816-.0620	+.013	-.0017 0	.12	.39	.21
2523	L 3813	5.8	18 47.325	88.5	+1.8247+.0022	+.004	-.0089 0	.16	.98	.27
2524	Leonis	4.7	18 49.919	77.3	+3.5031-.0194	+.003	-.0023 0	.08	.28	.12
2525	$\lambda$ Pyxidis	5.0	18 52.487	83.9	+2.5933+.0042	+.006	-.0117 0	.09	.60	.18
2526	$\kappa$ Velorum	2.4	19 1.011	78.3	+1.8558+.0026	+.004	-.0023 0	.10	.45	.17
2527	Br 1321	6.9	19 7.702	73.8	+3.3840-.0149	+.003	-.0062 0	.09	.48	.20
2528	Pi 74	6.5	20 0.227	63.5	+3.3299-.0128	+.003	-.0053 0	.13	.62	.32
2529	Br 1326	6.0	20 24.026	68.2	+3.0007-.0027	+.004	-.0014 0	.13	.40	.21
2530	Br 1325	5.6	22 6.842	67.9	+3.9530-.0427	+.008	-.0003- 1	.09	.33	.16
2531	Pi 81	8.1	22 9.289	89.8	+3.9513-.0425	+.008	-.0012 0	.11	.54	.16
2532	Br 1327	6.8	22 20.656	73.8	+2.9379-.0012	+.004	-.0032 0	.15	.57	.26
2533	$\alpha$ Hydræ	2.0	22 40.427	66.7	+2.9488-.0014	+.004	-.0011 0	.02	.11	.05
2534	Lal 18639	5.0	22 43.794	93.0	+2.7456+.0028	+.005	+.0138 0	.10	.81	.17
2535	Abn 196	5.6	22 49.560	72.5	+2.9740-.0024	+.004	-.0148 0	.10	.51	.22
2536	$\gamma$ H Draconis	4.6	22 51.275	72.6	+8.9178-.7756	+1.358	-.0043- 3	.03	.18	.08
2537	L 3854	5.3	23 2.691	93.4	+1.9479+.0041	+.005	-.0048- 1	.21	1.22	.29
2538	$\omega$ Leonis <i>m</i>	5.6	23 6.166	63.4	+3.2172-.0088	+.003	+.0036 0	.10	.46	.24
2539	Br 1329	6.1	23 9.733	71.2	+3.1985-.0084	+.003	-.0020 0	.14	.51	.24
2540	Br 1323	3.6	23 39.006	71.3	+4.7794-.1033	+.040	+.0170- 2	.04	.20	.09
2541	Br 1334	4.9	24 4.394	77.3	+3.0465-.0036	+.004	+.0084 0	.11	.52	.21
2542	L 3890	6.5	24 34.126	77.7	+1.3041-.0108	-.009	-.0106 0	.15	.68	.26
2543	Br 1331	6.1	24 40.732	74.4	+3.6390-.0264	+.005	-.0006 0	.12	.75	.29
2544	$\epsilon$ Antliæ	4.6	25 7.071	80.0	+2.4735+.0059	+.007	-.0022 0	.10	.75	.19
2545	Pi 101	7.0	25 14.666	81.4	+2.6556+.0040	+.006	-.0065 0	.12	.70	.24
2546	Br 1333	5.6	25 27.364	84.8	+3.6638-.0279	+.005	-.0047 0	.12	.45	.16
2547	Br 1322	6.0	25 28.017	66.6	+5.7608-.2116	+.153	+.0177- 7	.11	.57	.27
2548	Pi 105	5.9	25 28.196	84.7	+2.6604+.0041	+.006	-.0023 0	.11	.68	.20
2549	Br 1324	4.7	25 38.814	78.4	+5.3853-.1680	+.104	-.0113+ 5	.04	.26	.09
2550	$\lambda$ Leonis	4.5	9 26 0.993	60.9	+3.4309-.0171	+.004	-.0016 0	.08	.38	.20

2502 OZ 199.  $10^M 6'' 121^\circ$ .2512 Z 1340.  $9^M 6'' 320^\circ$ .2517 Star A,  $6^M 0-6^M 6 0'' 3 264^\circ$ ; h 4206  $10^M 7'' 341^\circ$ .2522 Z 1346.  $9^M 0 5'' 312^\circ$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
2501	+18 7 45.63	75.0	-15.117-.318	+ .18	-.138+ 1	.03	.22	.08	83 Cancr
2502	+51 41 2.65	56.8	-14.867-.398	+ .33	+.135 0	.10	.31	.19	Ursa Maj (37 Lyncis) *
2503	-58 51 20.46	71.5	-15.040-.148	+ .04	-.002 0	.06	.31	.13	
2504	-50 37 49.03	82.4	-15.054-.185	+ .05	+.005 0	.11	.51	.18	122 G Velorum K
2505	-15 24 39.91	86.4	-15.119-.266	+ .11	-.057 0	.13	.75	.22	121 G Hydræ
2506	-11 33 10.26	72.0	-15.066-.272	+ .12	+.004 0	.10	.38	.18	26 Hydræ
2507	+34 48 55.57	73.6	-15.060-.344	+ .23	+.010+ 2	.04	.20	.08	40 Lyncis
2508	+25 35 27.36	78.1	-15.243-.330	+ .20	-.150 0	.09	.40	.16	
2509	-51 8 19.88	87.0	-15.101-.182	+ .05	-.006+ 1	.16	1.30	.34	123 G Velorum
2510	-9 11 10.14	75.3	-15.138-.274	+ .12	-.039 0	.12	.59	.24	Doo. 10 <sup>m</sup> 10" 197°
2511	-9 7 53.02	69.0	-15.132-.274	+ .12	-.025 0	.10	.37	.18	27 Hydræ
2512	+49 58 12.46	59.5	-15.122-.388	+ .31	-.008 0	.09	.27	.16	Ursa Maj (39 Lyncis) *
2513	-68 16 3.30	85.4	-15.147-.073	+ .06	-.024+ 2	.15	.77	.24	128 G Carinæ
2514	-66 37 45.70	86.7	-15.119-.093	+ .05	+.019 0	.16	.81	.25	129 G Carinæ
2515	-31 20 9.44	78.2	-15.172-.236	+ .09	-.014 0	.12	.63	.23	h 4200. 8 <sup>m</sup> 3" 72°
2516	-25 32 23.21	77.3	-15.199-.246	+ .09	-.009 0	.07	.35	.13	(Mali h)
2517	-74 28 20.58	83.2	-15.189+.013	+ .14	+.032 0	.15	.67	.23	131 G Carinæ *
2518	+25 36 36.93	61.8	-15.232-.323	+ .20	-.003+ 1	.12	.50	.27	
2519	-41 46 0.96	89.6	-15.285-.212	+ .07	-.041 0	.12	.73	.19	126 G Velorum
2520	+26 20 52.61	67.2	-15.311-.325	+ .20	-.050 0	.08	.35	.17	
2521	-61 58 42.49	83.1	-15.290-.130	+ .04	-.015 0	.13	.61	.21	132 G Carinæ h
2522	+54 26 46.57	50.8	-15.302-.398	+ .35	-.027 0	.10	.31	.21	21 Ursæ Maj *
2523	-55 5 23.19	84.9	-15.242-.165	+ .04	+.046+ 1	.13	.71	.22	128 G Velorum
2524	+26 36 46.09	75.7	-15.344-.324	+ .20	-.053 0	.07	.28	.12	$\beta$ 105. 11 <sup>m</sup> 3" 205°
2525	-28 24 22.30	82.0	-15.272-.237	+ .09	+.022+ 1	.09	.46	.16	
2526	-54 35 0.99	75.4	-15.306-.168	+ .04	-.005 0	.08	.37	.15	
2527	+20 13 9.33	73.5	-15.429-.312	+ .18	-.121+ 1	.08	.42	.17	
2528	+17 1 1.36	60.4	-15.377-.305	+ .17	-.020 0	.12	.60	.32	
2529	-4 41 10.08	69.7	-15.389-.274	+ .13	-.010 0	.11	.39	.19	28 Hydræ (A)
2530	+46 2 23.15	61.8	-15.611-.360	+ .29	-.136 0	.07	.26	.14	41 Lyncis
2531	+46 1 6.89	84.8	-15.530-.360	+ .29	-.053 0	.10	.45	.15	
2532	-8 47 23.46	72.2	-15.499-.265	+ .12	-.011 0	.12	.46	.21	29 Hydræ *
2533	-8 13 30.38	66.2	-15.475-.266	+ .12	+.031 0	.02	.11	.05	
2534	-21 54 18.37	92.0	-15.670-.248	+ .10	-.161- 1	.11	.85	.19	141 G Hydræ G
2535	-5 38 3.40	70.1	-15.588-.266	+ .13	-.074+ 1	.08	.41	.18	
2536	+81 46 6.91	80.0	-15.541-.816	+ 2.30	-.025 0	.03	.19	.06	Pi 37. Groomb 1537
2537	-52 56 43.90	84.6	-15.541-.173	+ .05	-.014 0	.15	.71	.23	136 G Velorum I
2538	+9 29 31.97	51.7	-15.543-.290	+ .16	-.013 0	.07	.29	.18	*
2539	+8 37 28.81	64.7	-15.561-.288	+ .16	-.028 0	.13	.42	.23	3 Leonis *
2540	+63 29 57.05	70.9	-15.535-.434	+ .48	+.025- 2	.04	.19	.09	23 Ursæ Maj h *
2541	-2 19 54.72	73.3	-15.602-.274	+ .14	-.019- 1	.09	.39	.17	31 Hydræ $\tau^1$
2542	-64 29 46.31	79.4	-15.551-.112	+ .04	+.059+ 1	.13	.60	.22	137 G Carinæ
2543	+34 5 42.73	68.3	-15.682-.326	+ .23	-.065 0	.10	.48	.22	7 Leonis Min
2544	-35 30 50.28	79.3	-15.660-.219	+ .08	-.019 0	.11	.51	.19	
2545	-26 9 19.73	77.0	-15.688-.235	+ .09	-.040+ 1	.11	.55	.21	
2546	+35 32 43.34	75.3	-15.776-.326	+ .23	-.117 0	.10	.35	.16	8 Leonis Min
2547	+72 38 59.44	58.7	-15.729-.519	+ .78	-.069- 2	.12	.36	.22	22 Ursæ Maj
2548	-26 9 5.19	81.1	-15.671-.235	+ .09	-.011 0	.10	.55	.19	3 G Antliæ
2549	+70 16 11.94	76.0	-15.600-.482	+ .66	+.070+ 1	.05	.22	.09	24 Ursæ Maj d
2550	+23 24 32.18	59.0	-15.741-.305	+ .19	-.051 0	.06	.31	.17	

2532  $\beta$  590. 12<sup>m</sup> 11" 174°.2539 W. H. 11<sup>m</sup> 25" 80°.2538  $\Sigma$  1356. 6<sup>m</sup> 2-7<sup>m</sup> 0 1", binary, 116 yrs.  $\pm$ .2540  $\Sigma$  1351. 9<sup>m</sup> 23" 270°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors. a Ep. 100 $\mu$ a 10		
		M	h	m	s		s	s		s	s	"	"	"
2551	L 3914	5.5	9	26	7.215	89.1	+0.6103—	.0443	— .051	— .0243—	3	.18	.93	.27
2552	$\theta$ Ursæ Maj	3.2	26	10.336	70.3	89.3	+4.0387—	.0550	+ .014	— .1026+	5	.03	.14	.06
2553	L 3880 <sup>1</sup>	7.2	26	28.754	82.2	82.2	+2.5621+	.0053	+ .006	— .0027	0	.16	1.38	.42
2554	L 3880 <sup>2</sup>	6.9	26	29.145	83.6	83.6	+2.5652+	.0053	+ .006	+ .0003	0	.13	.78	.24
2555	$\xi$ Leonis	5.2	26	33.399	69.0	69.0	+3.2383—	.0100	+ .003	— .0065	0	.06	.30	.14
2556	Br 1339	5.5	26	35.991	65.3	65.3	+3.2204—	.0092	+ .004	— .0005	0	.09	.45	.22
2557	L 3894	5.7	26	40.413	85.0	85.0	+2.0438+	.0056	+ .007	— .0021	0	.20	1.10	.34
2558	$\psi$ Velorum <i>m</i>	3.5	26	45.687	82.6	82.6	+2.3599+	.0065	+ .007	— .0164—	1	.08	.42	.14
2559	Br 1341	4.6	26	53.057	84.2	84.2	+3.0604—	.0042	+ .004	— .0012	0	.08	.50	.15
2560	L 3884	6.2	27	15.537	84.8	84.8	+2.5640+	.0054	+ .006	— .0034	0	.11	.72	.21
2561	Br 1337	6.6	27	22.217	68.2	68.2	+3.6962—	.0296	+ .005	+ .0032	0	.14	.51	.26
2562	L 3904	5.9	27	28.185	90.1	90.1	+1.7483+	.0014	+ .004	— .0074	0	.20	1.11	.29
2563	$\iota$ Chamæleontis	5.5	27	29.285	81.8	81.8	— 1.8421—	.3029	— .628	— .0590—	8	.10	.68	.22
2564	Lal 18792	6.0	27	41.611	97.6	97.6	+2.7897+	.0023	+ .005	+ .0005	0	.12	.92	.17
2565	Br 1336	4.7	27	58.571	58.3	58.3	+4.1383—	.0569	+ .014	— .0063	0	.13	.40	.25
2566	Br 1340	4.8	28	5.955	85.9	85.9	+3.6896—	.0295	+ .005	+ .0011	0	.05	.28	.08
2567	L 3910	2.8	28	11.000	80.0	80.0	+1.8213+	.0027	+ .005	— .0048	0	.10	.54	.19
2568	L 3900	5.5	28	21.057	90.2	90.2	+2.3783+	.0068	+ .007	+ .0001	0	.12	.70	.18
2569	Arm 2102	5.3	28	36.193	89.5	89.5	+2.7610+	.0028	+ .005	— .0019	0	.09	.92	.21
2570	Pi 115	5.0	28	49.605	64.8	64.8	+3.7585—	.0334	+ .007	— .0027	0	.15	.57	.30
2571	Paris 11778	6.1	28	52.941	91.2	91.2	+2.7318+	.0033	+ .006	— .0027	0	.14	1.12	.25
2572	Br 1344	5.9	29	33.255	69.3	69.3	+2.9943—	.0023	+ .004	.0000	0	.11	.40	.20
2573	Br 1343	5.6	29	39.811	65.1	65.1	+3.6121—	.0284	+ .005	— .0582+	2	.08	.30	.16
2574	R Carinæ	Var.	29	43.718	88.1	88.1	+1.5114—	.0044	— .002	— .0059—	1	.18	1.06	.29
2575	L 3917 <i>m</i>	5.4	30	9.253	84.3	84.3	+2.1511+	.0067	+ .008	— .0005	0	.16	.84	.27
2576	Br 1345	6.6	30	25.032	67.2	67.2	+3.2845—	.0117	+ .004	— .0027	0	.10	.38	.19
2577	L 3925	5.2	30	40.743	84.0	84.0	+2.0758+	.0062	+ .007	— .0025	0	.18	1.08	.33
2578	Pi 124	5.8	30	46.952	84.5	84.5	+3.5718—	.0240	+ .005	+ .0010	0	.11	.46	.16
2579	L 3968	5.6	30	51.431	88.0	88.0	+0.4762—	.0558	— .071	— .0068—	2	.15	.78	.23
2580	Br 1347	6.2	31	31.606	73.5	73.5	+3.3165—	.0129	+ .004	— .0007	0	.09	.36	.16
2581	L 3949	4.1	31	32.594	77.1	77.1	+1.7398+	.0014	+ .003	— .0018	0	.12	.51	.21
2582	Br 1349	5.4	31	55.923	65.2	65.2	+3.1708—	.0077	+ .004	— .0044	0	.08	.39	.19
2583	Br 1348	6.9	32	6.621	70.0	70.0	+3.4415—	.0184	+ .004	— .0077	0	.08	.39	.18
2584	Br 1346	5.4	32	7.251	80.2	80.2	+3.7617—	.0344	+ .007	— .0017	0	.08	.36	.14
2585	L 3928	6.1	32	30.341	88.2	88.2	+2.6959+	.0042	+ .007	— .0051	0	.11	1.05	.26
2586	Br 1350	6.0	32	33.919	80.2	80.2	+3.2791—	.0117	+ .004	— .0050	0	.12	.36	.16
2587	L 3939	5.8	32	51.654	82.0	82.0	+2.5811+	.0059	+ .007	+ .0036	0	.11	.58	.20
2588	Br 1353	6.7	32	57.351	71.9	71.9	+2.9423—	.0008	+ .005	— .0037	0	.10	.34	.16
2589	Br 1352	4.9	33	14.360	70.2	70.2	+3.1326—	.0066	+ .004	— .0110	0	.08	.33	.15
2590	L 3952	4.4	33	14.792	82.0	82.0	+2.1443+	.0069	+ .008	— .0125—	1	.11	.75	.24
2591	Groomb 1564	6.0	33	41.602	81.0	81.0	+5.2129—	.1608	+ .108	— .0115	0	.05	.44	.14
2592	Br 1342	5.6	33	45.173	72.7	72.7	+5.6242—	.2108	+ .173	— .0053	0	.08	.33	.14
2593	L 3961 <i>m</i>	5.6	33	51.864	90.4	90.4	+2.0006+	.0058	+ .007	— .0075—	1	.20	1.02	.28
2594	L 3956	5.6	34	7.018	92.2	92.2	+2.3407+	.0075	+ .008	+ .0024	0	.13	.82	.20
2595	$\iota$ Hydræ	4.1	34	44.968	78.2	78.2	+3.0659—	.0041	+ .005	+ .0031	0	.06	.28	.11
2596	Br 1358	6.5	34	54.387	71.3	71.3	+2.9284—	.0004	+ .005	— .0028	0	.12	.52	.24
2597	Groomb 1569	7.6	35	10.808	86.0	86.0	+3.7275—	.0330	+ .008	+ .0066—	1	.12	.44	.16
2598	Groomb 1562	6.3	35	27.145	63.6	63.6	+7.3587—	.5045	+ .772	— .0060	0	.11	.51	.26
2599	Br 1361	6.5	35	27.276	74.2	74.2	+2.9286—	.0003	+ .006	— .0003	0	.09	.39	.17
2600	$\kappa$ Hydræ	5.1	9	35	30.738	80.3	+2.8759+	.0009	+ .006	— .0018	0	.08	.39	.14

2556 9<sup>m</sup> 37" 74°.2574 4<sup>m</sup> 3 to 10<sup>m</sup>; L 3932.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10			Remarks.
	° ' "		" "	"	"	"	"	"	
2551	-71 10 2.82	84.8	-15.633-.046	+ .07	+.062+ 2	.14	.67	.22	138 G Carinæ
2552	+52 7 59.46	67.9	-16.247-.351	+ .33	-.549+ 9	.03	.13	.06	$\beta$ 1071. 14 <sup>m</sup> 5" 180°, slow
2553	-31 27 3.12	73.3	-15.740-.225	+ .09	-.025 0	.16	1.07	.42	} Dunlop. 8" 211°
2554	-31 26 56.03	76.9	-15.745-.225	+ .09	-.030 0	.12	.71	.26	} 9 G Antliæ $\zeta^1$
2555	+11 44 33.64	62.5	-15.806-.286	+ .16	-.087+ 1	.06	.24	.13	
2556	+10 9 24.06	60.2	-15.744-.285	+ .16	-.023 0	.08	.36	.19	6 Leonis $h^*$
2557	-51 4 41.00	79.2	-15.717-.178	+ .05	+.009 0	.15	.73	.27	141 G Velorum
2558	-40 1 44.06	80.8	-15.664-.205	+ .07	+.066+ 2	.08	.40	.14	Copeland 3 <sup>m</sup> 7-5 <sup>m</sup> 7 0" 8 257°
2559	-0 44 37.37	80.0	-15.756-.270	+ .14	-.019 0	.08	.36	.13	32 Hydræ $\tau^2$
2560	-31 25 50.99	79.2	-15.741-.224	+ .09	+.016 0	.12	.58	.22	10 G Antliæ $\zeta^2$
2561	+36 55 48.72	65.9	-15.808-.326	+ .24	-.045 0	.11	.47	.23	9 Leonis Min
2562	-57 55 20.41	88.7	-15.742-.150	+ .04	+.027+ 1	.15	.97	.26	143 G Carinæ
2563	-80 21 17.78	82.4	-15.644+.178	+ .50	+.126+ 5	.09	.58	.18	
2564	-18 57 32.01	97.6	-15.789-.244	+ .11	-.008 0	.14	1.03	.19	156 G Hydræ
2565	+52 29 46.44	50.2	-15.840-.364	+ .33	-.044+ 1	.11	.33	.23	26 Ursæ Maj
2566	+36 50 29.80	76.1	-15.829-.324	+ .24	-.027 0	.05	.21	.09	10 Leonis Min
2567	-56 35 35.40	77.5	-15.803-.156	+ .04	+.004 0	.09	.43	.17	144 G Velorum $N$
2568	-40 12 25.03	85.3	-15.835-.206	+ .07	-.019 0	.10	.49	.16	143 G Velorum
2569	-20 40 23.25	89.8	-15.832-.240	+ .10	-.002 0	.08	.80	.18	
2570	+40 3 55.29	60.7	-15.842-.329	+ .25	.000 0	.12	.46	.26	
2571	-22 25 19.27	91.4	-15.790-.237	+ .10	+.054 0	.14	1.19	.26	162 G Hydræ
2572	-5 28 6.77	67.2	-15.937-.260	+ .13	-.057 0	.09	.37	.18	33 Hydræ $A$
2573	+36 15 44.74	64.0	-16.152-.310	+ .24	-.266+ 5	.07	.30	.16	11 Leonis Min
2574	-62 20 45.93	85.4	-15.873-.127	+ .04	+.017 0	.14	.85	.25	145 G Carinæ *
2575	-48 33 38.30	80.8	-15.898-.184	+ .06	+.014 0	.13	.64	.23	145 G Velorum *
2576	+14 49 33.08	64.4	-15.940-.284	+ .17	-.014 0	.08	.30	.16	7 Leonis
2577	-50 48 36.23	79.9	-15.959-.176	+ .06	-.019 0	.14	.73	.26	146 G Velorum $L$
2578	+31 36 35.90	80.5	-15.988-.309	+ .22	-.042 0	.11	.42	.17	
2579	-72 38 14.39	85.8	-15.960-.034	+ .09	-.010+ 1	.12	.63	.19	146 G Carinæ $H$
2580	+16 53 9.25	71.8	-16.004-.285	+ .18	-.019 0	.08	.34	.15	8 Leonis
2581	-58 47 1.44	76.6	-15.975-.146	+ .04	+.011 0	.10	.44	.18	147 G Carinæ $h$
2582	+7 17 2.71	58.4	-16.013-.271	+ .16	-.007 0	.07	.26	.15	10 Leonis (1 Sextantis)
2583	+25 7 10.59	67.2	-16.043-.294	+ .20	-.027+ 1	.07	.32	.16	9 Leonis
2584	+40 41 19.33	76.1	-16.023-.323	+ .25	-.007 0	.07	.29	.12	42 Lyncis
2585	-24 50 56.88	88.2	-16.007-.229	+ .10	+.030 0	.12	1.11	.27	16 G Antliæ
2586	+14 47 56.32	77.1	-16.135-.279	+ .18	-.095 0	.11	.35	.16	11 Leonis
2587	-31 43 44.55	76.8	-16.079-.219	+ .09	-.024 0	.10	.47	.18	17 G Antliæ
2588	-8 58 29.64	71.8	-16.053-.250	+ .13	+.007 0	.08	.31	.14	34 Hydræ
2589	+5 6 3.04	66.0	-16.138-.265	+ .16	-.063+ 1	.08	.31	.16	2 Sextantis
2590	-48 54 24.71	81.2	-16.053-.179	+ .06	+.023+ 1	.10	.65	.21	148 G Velorum $M$
2591	+69 41 33.97	79.2	-16.170-.445	+ .63	-.071+ 1	.06	.40	.14	
2592	+72 42 25.55	68.7	-16.136-.481	+ .76	-.034 0	.07	.24	.12	27 Ursæ Maj
2593	-53 13 6.01	79.2	-16.131-.166	+ .05	-.023+ 1	.14	.58	.23	150 G Velorum *
2594	-42 44 22.28	87.1	-16.165-.196	+ .07	-.044 0	.12	.59	.18	151 G Velorum $y$
2595	-0 41 19.77	75.3	-16.226-.258	+ .15	-.072 0	.06	.27	.11	
2596	-10 7 4.90	72.1	-16.163-.245	+ .13	-.001 0	.11	.42	.19	37 Hydræ
2597	+39 24 26.37	74.2	-16.323-.315	+ .25	-.147- 1	.10	.32	.15	$\Sigma$ 1374. 9 <sup>m</sup> 0 3" 285°, slow
2598	+79 35 43.97	64.4	-16.214-.625	+ 1.51	-.024 0	.12	.49	.25	
2599	-10 18 57.79	71.5	-16.196-.245	+ .13	-.006 0	.08	.31	.14	
2600	-13 52 42.77	75.8	-16.209-.240	+ .12	-.016 0	.07	.34	.14	

2575 h 4220. 5<sup>m</sup> 9-6<sup>m</sup> 5 2" 4 207°.2593 Lowell. 6<sup>m</sup> 3-6<sup>m</sup> 4 0" 6 170°, binary.



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors. a Ep. 100 $\mu$ a 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
2601	Br 1354	5.6	9 35 48.706	68.0	+3.7321-.0338	+.008	-.0051 0	.14	.50	.25
2602	o Leonis	3.7	35 48.865	72.5	+3.2061-.0092	+.005	-.0098 0	.03	.18	.07
2603	Br 1357	6.5	35 53.374	66.8	+3.4611-.0196	+.005	-.0009 0	.12	.48	.24
2604	L 3987	4.6	36 34.850	79.4	+1.6626-.0001	+.002	-.0047 0	.14	.70	.26
2605	Lal 19034	4.9	36 43.220	93.2	+2.7370+.0039	+.006	-.0011 0	.10	.92	.18
2606	ζ Chamæleontis	5.3	36 49.947	78.3	-1.6117-.2984	-.659	-.0173- 7	.06	.54	.18
2607	L 3990	5.4	37 37.757	86.5	+1.8439+.0038	+.006	-.0061- 1	.15	.82	.24
2608	Br 1365	5.8	37 41.603	76.6	+3.5270-.0231	+.006	-.0021 0	.11	.50	.20
2609	Lal 19093	5.2	37 43.637	94.0	+2.7051+.0041	+.007	-.0298 0	.10	1.08	.20
2610	L 3992	6.0	37 52.438	92.6	+1.8958+.0048	+.007	+.0105+ 1	.18	1.23	.28
2611	Br 1355	6.7	38 14.007	78.5	+4.6683-.1073	+.056	-.0010- 1	.07	.34	.13
2612	ψ Leonis	5.8	38 17.195	71.2	+3.2722-.0115	+.005	-.0002 0	.08	.33	.15
2613	L 3983	6.7	38 28.224	89.8	+2.5291+.0070	+.008	-.0005 0	.14	1.08	.26
2614	Br 1364	5.4	39 26.944	67.5	+4.2843-.0735	+.030	+.0005 0	.12	.32	.18
2615	θ Antilæ	5.1	39 44.616	83.0	+2.6714+.0052	+.007	-.0045 0	.10	.52	.17
2616	L 3998	6.7	39 54.059	77.5	+2.1297+.0077	+.009	-.0032 0	.15	.86	.32
2617	Br 1363	7.2	39 54.890	73.9	+4.6070-.1044	+.055	-.0180 0	.09	.40	.17
2618	ε Leonis	3.1	40 10.598	72.5	+3.4140-.0179	+.005	-.0030 0	.02	.14	.06
2619	L 4003	5.8	40 18.549	87.5	+2.0314+.0068	+.008	-.0095- 1	.20	.86	.27
2620	Br 1367	7.2	40 18.790	79.1	+3.8586-.0426	+.012	+.0056- 2	.10	.32	.14
2621	Åbo 205	6.2	40 53.577	72.8	+3.1689-.0076	+.005	+.0007 0	.09	.51	.21
2622	Br 1370	6.1	41 0.147	68.5	+3.2369-.0102	+.005	-.0011 0	.09	.39	.19
2623	Pi 171	5.9	41 14.031	90.9	+3.0987-.0053	+.005	-.0035 0	.13	.56	.16
2624	Br 1372	6.6	42 3.413	76.1	+3.2293-.0100	+.005	-.0043 0	.11	.33	.16
2625	Pi 173	7.9	42 6.720	85.3	+3.3700-.0157	+.005	+.0063 0	.10	.39	.14
2626	Br 1369	5.3	42 8.500	64.4	+3.8902-.0444	+.013	+.0213- 3	.08	.28	.15
2627	R Leonis	Var.	42 10.823	67.4	+3.2313-.0100	+.005	-.0003 0	.10	.57	.26
2628	L 4033	Var.	42 29.937	79.8	+1.6472-.0002	+.002	-.0032 0	.12	.54	.20
2629	L 4022	6.0	42 36.416	90.2	+2.3357+.0086	+.009	-.0010 0	.14	.80	.21
2630	L 4016	7.8	42 42.223	93.4	+2.4690+.0080	+.008	+.0039 0	.14	.99	.22
2631	Br 1376	7.3	43 14.562	70.9	+2.9808-.0014	+.005	-.0022 0	.12	.56	.25
2632	υ Ursæ Maj	3.8	43 52.972	73.9	+4.3045-.0809	+.037	-.0380+ 3	.03	.16	.07
2633	Br 1374	7.0	44 5.445	67.0	+3.7024-.0338	+.010	+.0012 0	.11	.46	.23
2634	Br 1377	6.2	44 14.374	59.5	+3.3654-.0160	+.005	-.0031 0	.13	.44	.26
2635	υ Carinæ	2.9	44 36.125	71.4	+1.5009-.0047	-.003	-.0031 0	.08	.36	.16
2636	Br 1380	6.4	45 17.904	75.8	+3.1248-.0064	+.005	-.0099 0	.09	.32	.14
2637	φ Ursæ Maj m	4.6	45 18.318	66.0	+4.1124-.0630	+.025	.0000 0	.07	.26	.13
2638	Br 1379	7.1	45 26.498	86.8	+3.2330-.0102	+.005	-.0009 0	.13	.44	.16
2639	Br 1381	6.9	45 37.339	71.5	+3.2520-.0109	+.005	+.0017 0	.14	.58	.27
2640	L 4047	5.4	46 4.142	83.4	+2.3252+.0091	+.010	-.0030 0	.18	.94	.31
2641	Br 1385	6.2	46 11.688	88.1	+3.0246-.0025	+.005	+.0009 0	.05	.48	.12
2642	Br 1382	5.4	46 12.527	78.2	+3.4149-.0185	+.006	+.0011- 1	.08	.36	.14
2643	ν Chamæleontis	5.4	46 17.618	88.0	+0.0538-.1023	-.171	+.0038- 3	.20	.94	.29
2644	Br 1378	7.0	46 18.095	68.4	+3.6511-.0316	+.009	-.0044 0	.13	.46	.23
2645	υ Hydræ	4.3	46 40.070	73.9	+2.8850+.0016	+.006	+.0009 0	.10	.38	.17
2646	L 4046	8.6	46 40.397	90.0	+2.6321+.0068	+.008	+.0017 0	.14	1.10	.26
2647	Br 1386	6.2	47 2.680	70.4	+3.0975-.0054	+.005	-.0122 0	.10	.36	.17
2648	μ Leonis	4.1	47 4.669	72.6	+3.4208-.0196	+.006	-.0163 0	.03	.18	.07
2649	L 4055	5.7	47 27.397	85.0	+2.3189+.0093	+.010	-.0041 0	.20	1.16	.35
2650	Br 1389 m	5.3	9 47 33.404	73.5	+2.9702-.0009	+.006	-.0043 0	.12	.44	.21

2628. 3<sup>M</sup>7 to 5<sup>M</sup>2.2637 OΞ 208. 5<sup>M</sup>1-5<sup>M</sup>7 < 0''.5, binary, 100 yrs. ±.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
2601	+40 12 49.36	63.2	-16.258-.313	+.25	-.049 0	.11	.37	.20	43 Lyncis
2602	+10 20 50.27	71.3	-16.248-.267	+.17	-.039+ 1	.03	.15	.06	
2603	+26 22 4.70	68.8	-16.260-.290	+.20	-.047 0	.11	.45	.22	13 Leonis
2604	-60 52 30.91	76.2	-16.229-.135	+.04	+.019 0	.11	.51	.20	150 G Carinae <i>m</i>
2605	-23 8 12.52	94.3	-16.248-.226	+.10	+.007 0	.11	1.11	.21	174 G Hydræ <i>I</i>
2606	-80 29 31.17	79.3	-16.254+.146	+.46	+.007+ 2	.06	.48	.16	
2607	-57 31 43.52	82.4	-16.307-.149	+.05	-.005 0	.11	.55	.19	152 G Carinae
2608	+30 26 3.12	73.8	-16.414-.292	+.21	-.109 0	.10	.38	.17	15 Leonis <i>f</i>
2609	-23 28 0.54	92.7	-16.071-.220	+.10	+.236+ 2	.12	.99	.21	175 G Hydræ
2610	-56 48 11.19	90.7	-16.366-.154	+.05	-.052- 1	.14	1.03	.24	153 G Carinae
2611	+64 6 48.56	71.6	-16.375-.388	+.47	-.043 0	.06	.24	.11	28 Ursæ Maj
2612	+14 28 44.91	68.2	-16.349-.270	+.18	-.014 0	.08	.33	.16	
2613	-35 2 41.56	81.6	-16.344-.206	+.09	.000 0	.16	1.00	.33	22 G Antliae
2614	+57 35 14.06	65.9	-16.369-.352	+.38	+.025 0	.11	.25	.16	
2615	-27 18 42.06	80.7	-16.385-.216	+.10	+.023 0	.09	.41	.15	
2616	-50 46 11.21	75.8	-16.418-.171	+.06	-.002 0	.13	.65	.26	153 G Velorum
2617	+63 42 45.39	78.0	-16.567-.377	+.46	-.150+ 2	.09	.44	.17	
2618	+24 14 4.93	69.5	-16.454-.278	+.20	-.024 0	.02	.14	.06	
2619	-53 25 59.97	80.0	-16.428-.162	+.05	+.009+ 1	.15	.59	.23	154 G Velorum <i>O</i>
2620	+45 34 43.67	74.2	-16.580-.316	+.28	-.143 0	.10	.29	.14	14 Leonis Min
2621	+7 10 12.36	68.9	-16.505-.256	+.16	-.039 0	.08	.42	.19	
2622	+12 16 14.26	65.3	-16.468-.262	+.17	+.004 0	.08	.36	.18	18 Leonis
2623	+2 14 52.77	84.0	-16.529-.250	+.15	-.046 0	.11	.42	.16	
2624	+12 1 50.71	71.6	-16.521-.259	+.17	+.003 0	.10	.32	.16	19 Leonis
2625	+21 4 3.43	78.4	-16.543-.272	+.19	-.016 0	.08	.30	.13	
2626	+46 29 13.10	60.9	-16.627-.316	+.29	-.099- 2	.07	.26	.15	15 Leonis Min
2627	+11 53 34.16	68.0	-16.563-.259	+.17	-.033 0	.09	.58	.26	Br 1373. 5 <sup>M</sup> <sub>2</sub> to 10 <sup>M</sup>
2628	-62 2 47.47	77.2	-16.525-.128	+.04	+.021 0	.09	.42	.17	157 G Carinae <i>l</i> *
2629	-44 17 33.53	84.3	-16.551-.185	+.07	.000 0	.11	.51	.17	157 G Velorum
2630	-38 51 39.11	90.4	-16.651-.196	+.08	-.095 0	.15	.84	.22	
2631	-6 46 53.25	68.8	-16.603-.237	+.14	-.021 0	.10	.40	.19	3 Sextantis
2632	+59 30 33.04	64.1	-16.773-.341	+.39	-.159+ 3	.04	.16	.08	O $\Sigma$ 521. 12 <sup>M</sup> 11" 295°
2633	+40 5 49.91	58.2	-16.631-.295	+.25	-.007 0	.11	.39	.23	16 Leonis Min
2634	+21 38 43.23	58.4	-16.654-.266	+.19	-.023 0	.12	.48	.28	20 Leonis
2635	-64 36 28.83	71.3	-16.643-.114	+.04	+.006 0	.07	.33	.15	h 4252. 7 <sup>M</sup> <sub>5</sub> 5" 126°
2636	+4 48 42.38	71.0	-16.747-.245	+.16	-.064+ 1	.07	.26	.12	4 Sextantis
2637	+54 31 53.64	62.6	-16.674-.325	+.34	+.009 0	.07	.25	.14	O $\Sigma$ 208 *
2638	+12 18 34.21	78.4	-16.696-.254	+.17	-.006 0	.12	.36	.17	21 Leonis
2639	+13 32 0.91	66.0	-16.725-.255	+.18	-.027 0	.12	.47	.24	23 Leonis
2640	-45 15 57.74	76.5	-16.732-.180	+.07	-.012 0	.13	.64	.25	160 G Velorum <i>u</i>
2641	-3 46 28.85	85.2	-16.756-.236	+.14	-.030 0	.06	.35	.10	6 Sextantis
2642	+24 52 6.45	73.8	-16.920-.267	+.20	-.193 0	.07	.30	.13	22 Leonis <i>g</i>
2643	-76 18 35.38	81.3	-16.792+.002	+.14	-.061 0	.15	.63	.24	
2644	+38 23 1.18	61.7	-16.761-.286	+.24	-.030 0	.11	.40	.22	17 Leonis Min
2645	-14 22 38.92	72.7	-16.776-.224	+.12	-.027 0	.09	.33	.15	39 Hydræ <i>v</i> <sup>1</sup>
2646	-31 2 30.85	84.4	-16.724-.204	+.09	+.025 0	.15	.91	.28	
2647	+2 55 14.14	63.7	-16.677-.239	+.16	+.090+ 1	.08	.30	.16	7 Sextantis
2648	+26 28 40.55	73.9	-16.832-.265	+.20	-.063+ 1	.03	.19	.08	
2649	-45 43 33.95	81.7	-16.768-.178	+.07	+.019 0	.15	.88	.29	162 G Velorum
2650	-7 38 2.86	76.2	-16.833-.229	+.14	-.041 0	.10	.38	.16	8 Sextantis *

2650 Clark. 6<sup>M</sup><sub>0</sub>-6<sup>M</sup><sub>3</sub> < 1", binary, 100 yrs.  $\pm$ .

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>m</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
2651	L 4057	4.5	9 47 48.855	86.7	+2.3129+.0093	+0.010	-.0027 0	.14	1.08	.29
2652	L 4061	5.9	48 5.016	93.1	+1.8634+.0052	+0.007	-.0003- 1	.21	1.18	.29
2653	L 4066	5.7	48 6.908	85.2	+1.6871+.0012	+0.004	-.0013 0	.18	.86	.28
2654	Br 1390	7.2	48 53.109	73.8	+3.1389-.0066	+0.005	-.0021 0	.11	.32	.16
2655	Br 1387	5.4	49 11.434	75.4	+3.9413-.0518	+0.019	-.0005 0	.10	.36	.16
2656	Pi 187	6.2	49 27.086	83.2	+5.4684-.2208	+0.225	-.0148+ 2	.04	.36	.10
2657	L 4059	5.1	49 40.397	82.7	+2.7145+.0053	+0.008	-.0152 0	.12	.66	.21
2658	Paris 12190	5.3	50 9.216	90.3	+2.8302+.0032	+0.007	-.0016 0	.10	.90	.20
2659	L 4070	6.1	50 10.103	81.3	+2.1957+.0096	+0.010	-.0011 0	.18	.88	.31
2660	Pi 201	6.2	50 15.400	63.6	+4.2182-.0748	+0.036	+0.0034- 1	.15	.56	.30
2661	L 4068	6.0	50 21.269	82.1	+2.3586+.0097	+0.010	-.0021 0	.16	1.02	.33
2662	Br 1391	6.8	50 39.561	80.6	+3.5309-.0254	+0.008	-.0031 0	.11	.39	.16
2663	Br 1393	6.2	51 7.930	71.5	+3.1843-.0085	+0.006	-.0061 0	.10	.38	.18
2664	L 4075	6.0	51 8.090	83.8	+2.2253+.0097	+0.011	-.0048 0	.20	1.00	.33
2665	Br 1392	5.2	51 33.717	80.5	+3.6913-.0357	+0.012	-.0102 0	.05	.28	.10
2666	L 4077	6.1	52 13.428	88.1	+2.6162+.0078	+0.009	+0.0021 0	.15	.88	.24
2667	L 4139	6.8	52 29.112	85.5	-0.7717-.2992	-.461	-.0024+ 1	.18	.75	.26
2668	Br 1383	7.2	52 38.963	79.5	+5.7331-.2685	+0.324	-.0149+ 3	.08	.45	.16
2669	L 4085	6.7	52 40.834	78.1	+2.2053+.0099	+0.011	-.0009 0	.20	1.02	.38
2670	Br 1394	7.7	52 45.571	66.9	+3.2679-.0121	+0.006	-.0024 0	.10	.38	.19
2671	Br 1396	6.4	52 49.802	69.2	+3.1818-.0082	+0.006	+0.0006 0	.12	.44	.21
2672	$\nu$ Leonis	5.5	52 50.662	67.8	+3.2318-.0105	+0.006	-.0021 0	.07	.28	.14
2673	Groomb 1594	5.8	52 58.878	73.4	+4.1636-.0721	+0.035	-.0039 0	.13	.40	.20
2674	$\phi$ Velorum	3.5	53 21.075	80.6	+2.1010+.0094	+0.011	-.0025 0	.09	.51	.17
2675	Pi 221	6.0	53 50.246	85.2	+3.4703-.0227	+0.008	-.0077 0	.12	.48	.17
2676	L 4092	6.7	53 52.405	92.2	+2.2954+.0103	+0.010	-.0024 0	.13	.90	.21
2677	L 4089	7.7	54 14.500	88.7	+2.6885+.0068	+0.008	-.0002 0	.14	.98	.25
2678	Pi 223	6.9	54 31.864	80.2	+3.1143-.0057	+0.006	-.0050 0	.08	.51	.17
2679	$\eta$ Antliae	5.3	54 34.815	85.5	+2.5703+.0085	+0.009	-.0076 0	.10	.62	.18
2680	$\pi$ Leonis	5.0	54 55.778	76.3	+3.1740-.0080	+0.006	-.0023 0	.03	.16	.06
2681	Br 1397	5.8	55 14.867	67.1	+3.4709-.0249	+0.008	-.0409 0	.08	.30	.15
2682	Pi 230	5.8	57 14.493	67.4	+3.3526-.0165	+0.007	-.0013 0	.11	.63	.29
2683	Pi 232	7.2	57 42.317	71.8	+2.9098+.0015	+0.007	-.0079 0	.13	.58	.26
2684	Pi 229	6.0	57 57.781	64.0	+4.0175-.0622	+0.029	-.0017 0	.13	.54	.28
2685	Br 1400	6.7	58 57.613	58.3	+3.1106-.0056	+0.006	-.0052 0	.11	.38	.22
2686	Lal 19684	7.2	59 15.421	02.7	+2.8579+.0034	+0.008	-.0011 0	.13	1.24	.16
2687	Dpt 1175	6.4	59 16.922	98.7	+2.8590+.0034	+0.007	-.0000 0	.12	.68	.14
2688	L 4126	6.1	9 59 43.797	89.8	+2.7668+.0055	+0.008	-.0102 0	.12	1.17	.27
2689	L 4135	6.5	10 0 10.955	91.9	+2.5195+.0101	+0.010	-.0029 0	.14	.93	.22
2690	Br 1402	4.8	0 15.295	83.6	+2.9210+.0015	+0.007	-.0025 0	.06	.33	.10
2691	L 4143	7.1	1 16.764	83.6	+2.6811+.0078	+0.009	-.0029 0	.12	.69	.22
2692	Br 1401	4.5	1 31.996	72.0	+3.5519-.0284	+0.010	+0.0044 0	.09	.36	.16
2693	Br 1404	6.5	1 33.694	78.8	+3.1406-.0066	+0.006	-.0023 0	.10	.38	.15
2694	$\eta$ Leonis	3.5	1 52.916	75.0	+3.2768-.0129	+0.006	-.0001 0	.04	.21	.08
2695	L 4158	5.3	2 13.679	85.5	+2.3740+.0116	+0.012	+0.0032 0	.15	1.06	.30
2696	Br 1405	4.6	2 35.868	68.8	+3.1872-.0090	+0.006	-.0064 0	.09	.50	.22
2697	Br 1407	4.6	2 49.181	75.3	+3.0718-.0037	+0.006	-.0019 0	.11	.52	.21
2698	$\alpha$ Leonis	1.2	3 2.854	66.6	+3.1996-.0100	+0.006	-.0169 0	.02	.11	.05
2699	$\mu$ Chamæleontis	5.7	3 24.222	78.1	-1.4240-.3466	-.979	-.0173- 6	.06	.56	.19
2700	Br 1409	7.0	10 4 0.500	70.2	+3.1471-.0069	+0.006	-.0009 0	.11	.52	.23

2661 Dunlop.  $8^m 5^s 5.237^\circ$ .2686-7  $21'' 274^\circ$ ;  $\beta$  1072.  $6^m 11.12^m 11'' 44^\circ$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	° ' "		" "	"	"	"	"	"	
2651	-46 4 43.52	83.8	-16.831-.177	+.07	-.027 0	.12	.80	.24	163 G Velorum <i>m</i>
2652	-58 57 19.71	86.2	-16.873-.141	+.05	-.057 0	.17	.75	.25	161 G Carinae
2653	-62 16 34.72	78.5	-16.817-.127	+.04	+.001 0	.13	.59	.23	162 G Carinae
2654	+ 5 24 59.25	66.6	-16.848-.240	+.16	+.007 0	.09	.27	.15	9 Sextantis
2655	+50 17 31.39	66.8	-16.852-.303	+.31	+.017 0	.09	.27	.15	31 Ursæ Maj
2656	+73 21 18.34	84.7	-16.928-.422	+.74	-.047+ 1	.04	.31	.09	Groomb 1586
2657	-25 27 42.78	82.4	-16.836-.205	+.10	+.056+ 1	.12	.71	.23	181 G Hydræ
2658	-18 32 7.92	87.6	-16.960-.214	+.12	-.045 0	.10	.95	.24	183 G Hydræ
2659	-50 40 28.34	80.8	-16.929-.164	+.07	-.014 0	.14	.79	.27	165 G Velorum
2660	+57 53 39.55	58.0	-16.981-.323	+.37	-.062 0	.13	.47	.28	
2661	-44 48 39.61	79.6	-16.929-.177	+.08	-.005 0	.12	.71	.25	166 G Velorum *
2662	+32 51 29.24	75.2	-16.939-.268	+.22	-.001 0	.10	.34	.16	18 Leonis Min
2663	+ 9 24 25.18	69.9	-16.953-.240	+.17	+.007 0	.10	.39	.18	
2664	-49 46 14.25	77.9	-16.956-.165	+.07	+.004 0	.15	.69	.27	167 G Velorum
2665	+41 31 54.47	74.9	-17.017-.278	+.26	-.037+ 1	.05	.26	.11	19 Leonis Min
2666	-32 56 37.76	79.8	-16.994-.195	+.10	+.017 0	.15	.81	.29	36 G Antliae
2667	-79 35 21.69	84.6	-16.999+.067	+.28	+.024 0	.14	.64	.22	18 G Chamæleontis
2668	+75 14 20.74	78.6	-17.065-.432	+.85	-.034+ 1	.08	.39	.15	
2669	-50 51 38.91	75.0	-17.063-.162	+.07	-.031 0	.14	.69	.28	169 G Velorum
2670	+15 41 53.75	63.1	-17.060-.244	+.18	-.024 0	.08	.32	.17	26 Leonis
2671	+ 8 47 28.50	63.8	-17.073-.237	+.17	-.034 0	.11	.39	.21	
2672	+12 55 18.34	60.7	-17.069-.241	+.18	-.029 0	.06	.25	.14	
2673	+57 17 24.86	73.2	-17.089-.312	+.36	-.043 0	.11	.33	.16	
2674	-54 5 30.44	76.6	-17.069-.153	+.06	-.006 0	.08	.38	.15	
2675	+30 7 27.72	76.2	-17.135-.257	+.21	-.050+ 1	.10	.39	.17	
2676	-47 56 13.54	89.2	-17.118-.168	+.07	-.031 0	.11	.65	.17	173 G Velorum
2677	-28 49 36.15	85.8	-17.096-.197	+.10	+.008 0	.15	.97	.28	
2678	+ 3 51 45.85	71.3	-17.105-.229	+.16	+.011 0	.09	.45	.20	12 Sextantis
2679	-35 24 44.24	80.6	-17.146-.187	+.10	-.027+ 1	.10	.56	.19	
2680	+ 8 31 26.50	73.8	-17.162-.233	+.17	-.027 0	.03	.17	.07	
2681	+32 24 55.65	67.6	-17.591-.252	+.22	-.441+ 3	.06	.28	.13	20 Leonis Min
2682	+22 25 53.35	67.9	-17.258-.242	+.19	-.019 0	.09	.53	.24	
2683	-12 48 53.10	74.6	-17.248-.208	+.13	+.012+ 1	.12	.55	.23	
2684	+54 22 31.83	56.4	-17.282-.290	+.33	-.011 0	.11	.45	.26	
2685	+ 3 41 16.10	62.4	-17.415-.221	+.16	-.100 0	.10	.38	.21	13 Sextantis
2686	-17 37 0.96	01.0	-17.334-.202	+.12	-.006 0	.14	1.12	.17	} 192 G Hydræ *
2687	-17 37 2.24	82.2	-17.339-.202	+.12	-.009 0	.12	.35	.15	
2688	-23 48 5.61	88.3	-17.327-.194	+.11	+.022+ 1	.10	1.12	.26	193 G Hydræ
2689	-39 29 27.34	90.4	-17.389-.176	+.09	-.020 0	.14	.98	.24	43 G Antliae
2690	-12 34 46.99	80.1	-17.360-.205	+.14	+.012 0	.06	.30	.11	40 Hydræ $v^2$
2691	-30 24 17.13	78.1	-17.443-.186	+.10	-.026 0	.12	.61	.23	47 G Antliae *
2692	+35 43 55.63	68.2	-17.434-.249	+.23	-.006 0	.07	.31	.15	21 Leonis Min
2693	+ 6 5 56.94	72.8	-17.444-.219	+.16	-.015 0	.08	.30	.14	14 Sextantis
2694	+17 15 1.00	71.1	-17.455-.228	+.18	-.012 0	.04	.17	.08	
2695	-46 52 52.60	82.4	-17.525-.163	+.08	-.067 0	.12	.81	.25	182 G Velorum *
2696	+10 29 15.65	59.0	-17.542-.220	+.17	-.069 0	.07	.29	.17	31 Leonis A
2697	+ 0 7 2.07	73.8	-17.495-.212	+.15	-.012 0	.08	.34	.15	15 Sextantis
2698	+12 27 21.46	65.8	-17.496-.219	+.17	-.003+ 1	.02	.10	.05	Regulus
2699	-81 43 50.51	78.6	-17.478+.110	+.44	+.030+ 1	.06	.47	.16	
2700	+ 6 39 39.45	65.8	-17.552-.215	+.16	-.018 0	.10	.42	.21	16 Sextantis

2691 Hough.  $12^m 6'' 43''$ .2695 Innes.  $8^m 0'' 55'' 57''$ .

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			<sup>M</sup>	<sup>h</sup>	<sup>m</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>		<sup>s</sup>	<sup>s</sup>	<sup>"</sup>	<sup>"</sup>	<sup>"</sup>
2701	Pi 254	6.7	10	4	57.356	71.4	+3.6333-	.0351	+.014	-.0011	0	.12	.60	.26
2702	L 4172	5.1		5	8.793	91.4	+2.2693+	.0123	+.013	-.0010	0	.13	.78	.20
2703	Br 1410	6.3		5	9.413	68.8	+2.9810-	.0002	+.007	-.0021	0	.12	.48	.23
2704	L 4167	6.5		5	13.200	87.7	+2.5812+	.0092	+.010	-.0357-	2	.12	.78	.21
2705	Cape <sub>80</sub> 1834	5.6		5	13.410	92.5	+2.9233+	.0015	+.007	-.0089-	1	.12	.82	.18
2706	$\lambda$ Hydræ	3.8		5	42.780	72.1	+2.9244+	.0014	+.007	-.0137	0	.04	.22	.10
2707	Brisb 2771	5.4		5	55.392	85.9	+1.6732+	.0022	+.005	-.0102-	1	.16	.86	.26
2708	Br 1413	6.0		5	57.483	69.2	+2.9825-	.0002	+.007	-.0010	0	.12	.45	.22
2709	L 4246	7.0		6	3.084	86.2	-1.0041-	.2776	-.738	-.0157-	5	.15	.88	.26
2710	S Carinæ	Var.		6	10.709	91.3	+1.9094+	.0087	+.011	-.0113-	1	.20	1.16	.29
2711	Br 1411	6.7		6	15.591	65.6	+3.2325-	.0108	+.007	+.0033	0	.10	.44	.22
2712	Br 1414	6.3		6	18.073	68.3	+2.9966-	.0006	+.006	+.0004	0	.11	.51	.24
2713	L 4185	7.1		7	22.834	89.4	+2.6540+	.0094	+.010	+.0044	0	.14	1.00	.25
2714	Br 1417	6.1		7	36.121	65.8	+3.1248-	.0060	+.006	-.0038	0	.13	.42	.23
2715	L 4342	7.6		8	41.07	77.8	-6.964-	2.338		-.048-	65	.09	.84	.28
2716	L 4193	6.5		8	43.360	83.3	+2.7552+	.0071	+.009	-.0057	0	.12	.70	.22
2717	Br 1419	7.6		8	45.987	67.7	+2.9843-	.0004	+.007	-.0127	0	.10	.36	.18
2718	L 4196	6.7		8	59.709	82.8	+2.6473+	.0089	+.010	-.0280-	1	.12	.75	.24
2719	Br 1420	7.4		9	9.369	66.7	+2.9886-	.0002	+.007	-.0020	0	.13	.51	.25
2720	Br 1418	6.8		9	21.861	66.8	+3.4561-	.0243	+.010	-.0034	0	.12	.51	.25
2721	L 4202	6.0		9	30.540	86.7	+2.5485+	.0113	+.011	-.0066	0	.18	.92	.28
2722	L 4206	5.6		9	31.181	83.4	+2.3096+	.0131	+.013	-.0048-	1	.18	.99	.32
2723	L 4212	3.9	10	32.270	77.3	+2.5124+	.0118	+.011	+.011	-.0140-	1	.10	.46	.18
2724	Br 1422	5.6	10	33.673	71.9	+3.4191-	.0222	+.010	+.010	-.0051	0	.10	.40	.19
2725	L 4233	5.4	10	40.830	89.3	+1.6961+	.0032	+.006	+.006	-.0060-	2	.18	.98	.27
2726	Br 1415	5.9	10	46.611	70.9	+4.4099-	.1135	+.090	+.090	-.0144+	2	.06	.28	.13
2727	Br 1423	6.7	10	48.182	81.6	+3.4110-	.0217	+.010	+.010	-.0037	0	.12	.56	.20
2728	Br 1424	6.2	11	0.126	72.8	+3.3296-	.0173	+.008	+.008	-.0152+	1	.08	.32	.14
2729	$\lambda$ Ursæ Maj	3.4	11	4.094	72.0	+3.6361-	.0381	+.017	+.017	-.0149+	1	.03	.15	.07
2730	$\zeta$ Leonis	3.4	11	7.805	78.7	+3.3450-	.0174	+.008	+.008	+.0016	0	.04	.21	.08
2731	Br 1426	5.8	11	18.719	70.0	+3.2255-	.0109	+.007	+.007	-.0016	0	.09	.40	.18
2732	L 4222	5.8	11	19.714	88.9	+2.5124+	.0123	+.012	+.012	+.0014	0	.16	.88	.25
2733	$\omega$ Carinæ	3.4	11	21.637	77.2	+1.4318-	.0076	-.007	-.007	-.0053-	1	.09	.48	.18
2734	Br 1427	6.1	11	44.561	70.7	+3.3083-	.0170	+.008	+.008	-.0298+	1	.09	.34	.16
2735	Br 1428	5.5	12	39.647	80.4	+2.9814	.0000	+.007	+.007	-.0108	0	.07	.34	.12
2736	Pi 31	7.0	12	46.774	78.5	+3.6712-	.0405	+.018	+.018	+.0054-	2	.09	.46	.17
2737	Pi 26	6.0	13	26.128	79.5	+4.6445-	.1468	+.142	+.142	-.0096+	1	.09	.48	.17
2738	Pi 39	5.8	13	32.530	79.0	+2.7453+	.0082	+.009	+.009	-.0021	0	.11	.48	.18
2739	L 4249	3.3	13	44.511	79.6	+1.9954+	.0114	+.014	+.014	-.0061-	1	.11	.57	.20
2740	Groomb 1638	6.4	14	3.207	67.2	+3.9129-	.0622	+.034	+.034	-.0019	0	.16	.58	.30
2741	Br 1431	5.1	14	17.645	67.5	+3.2720-	.0146	+.008	+.008	-.0166	0	.09	.32	.16
2742	$\gamma^1$ Leonis	2.3	14	27.638	70.2	+3.3141-	.0150	+.008	+.008	+.0215-	1	.03	.15	.07
2743	$\gamma^2$ Leonis	3.8	14	27.896	78.2	+3.3141-	.0150	+.008	+.008	+.0215-	1	.06	.48	.16
2744	Br 1430	7.0	15	4.382	60.8	+3.6107-	.0365	+.016	+.016	-.0001	0	.13	.50	.28
2745	Br 1399	5.6	15	9.27	75.8	+9.419-	1.508			-.090+	72	.06	.28	.11
2746	Dpt 1197 <i>m</i>	8.2	15	18.301	89.2	+3.1453-	.0068	+.007	+.007	+.0013	0	.12	.57	.17
2747	L 4263	4.5	15	51.295	78.0	+2.2477+	.0145	+.015	+.015	-.0014	0	.16	.66	.27
2748	Br 1435	6.9	15	52.174	65.2	+3.1005-	.0046	+.007	+.007	-.0005	0	.13	.54	.28
2749	L 4260	5.7	16	12.038	87.3	+2.4418+	.0141	+.014	+.014	+.0009	0	.15	1.24	.32
2750	Br 1433	6.0	10	16	13.987	65.4	+3.5830-	.0355	+.016	-.0109	0	.11	.44	.22

2710 L 4189. 6<sup>M</sup> to 9<sup>M</sup>2.

2722 189 G Velorum. (R) in B. A. C., etc.

## CATALOGUE OF 6188 STARS FOR 1900

III

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. 5 Ep. 100 $\mu'$ 8 10			Remarks.
	" ' "		" "	"	"	"	"	"	
2701	+41 9 11.28	66.2	-17.586-.247	+25	-.012 0	.11	.46	.23	
2702	-51 19 14.48	86.8	-17.587-.151	+07	-.005 0	.10	.51	.16	186 G Velorum Q
2703	-7 55 1.11	68.4	-17.586-.201	+14	-.004 0	.10	.40	.19	17 Sextantis
2704	-35 21 58.14	83.3	-17.585-.171	+10	.000+ 3	.14	.98	.30	49 G Antliae
2705	-12 19 18.04	88.2	-17.712-.197	+14	-.127+ 1	.11	.71	.19	200 G Hydræ
2706	-11 51 35.26	76.2	-17.699-.195	+14	-.093+ 1	.05	.27	.10	
2707	-65 19 32.39	86.5	-17.580-.108	+04	+.034+ 1	.14	.79	.23	176 G Carinae
2708	-7 55 30.37	70.0	-17.666-.200	+14	-.050 0	.10	.40	.19	18 Sextantis
2709	-81 4 43.26	86.2	-17.591+.078	+33	+.029+ 1	.13	.79	.23	20 G Chamæleontis
2710	-61 3 34.74	89.3	-17.559-.124	+05	+.066+ 1	.15	1.01	.26	177 G Carinae *
2711	+13 50 55.35	64.9	-17.675-.217	+18	-.047 0	.10	.48	.24	34 Leonis
2712	-6 49 20.16	71.6	-17.650-.200	+14	-.020 0	.10	.47	.21	
2713	-33 50 22.25	82.6	-17.735-.175	+10	-.060 0	.17	.97	.32	52 G Antliae
2714	+5 6 31.79	63.7	-17.700-.207	+16	-.016 0	.12	.43	.23	19 Sextantis
2715	-86 25 32.65	79.6	-17.726+.485		+.002+ 3	.08	.81	.26	
2716	-26 32 5.89	81.0	-17.709-.179	+11	+.021 0	.12	.73	.24	205 G Hydræ
2717	-6 53 21.27	68.0	-17.709-.194	+14	+.023+ 1	.08	.32	.16	20 Sextantis
2718	-32 32 18.05	77.7	-17.697-.170	+10	+.044+ 2	.11	.58	.22	54 G Antliae
2719	-7 29 49.83	67.4	-17.769-.195	+14	-.021 0	.11	.44	.22	21 Sextantis
2720	+31 57 51.88	66.0	-17.774-.226	+22	-.018 0	.11	.46	.23	22 Leonis Min
2721	-39 51 2.28	83.3	-17.755-.164	+10	+.007 0	.14	.69	.23	55 G Antliae
2722	-50 44 13.69	78.8	-17.813-.148	+07	-.051 0	.14	.71	.26	*
2723	-41 37 35.41	76.2	-17.773-.160	+09	+.031+ 1	.09	.39	.16	191 G Velorum q
2724	+29 48 31.49	69.8	-17.838-.221	+21	-.034 0	.10	.42	.20	23 Leonis Min
2725	-65 52 36.81	82.3	-17.824-.106	+04	-.015 0	.14	.61	.22	184 G Carinae M
2726	+65 36 26.18	74.7	-17.826-.286	+44	-.013+ 1	.05	.23	.10	32 Ursæ Maj
2727	+29 10 58.06	76.8	-17.911-.220	+21	-.097 0	.10	.43	.17	24 Leonis Min
2728	+24 0 0.22	67.8	-17.801-.213	+20	+.021+ 1	.07	.31	.15	35 Leonis
2729	+43 24 49.69	66.7	-17.870-.234	+26	-.045+ 1	.03	.15	.07	
2730	+23 54 56.37	76.6	-17.842-.216	+20	-.015 0	.04	.18	.07	
2731	+14 13 36.99	69.4	-17.861-.207	+18	-.027 0	.08	.34	.16	37 Leonis
2732	-42 36 47.18	82.2	-17.907-.160	+09	-.072 0	.13	.60	.21	193 G Velorum
2733	-69 32 28.71	77.3	-17.838-.087	+04	-.002 0	.08	.42	.16	
2734	+23 36 27.89	66.2	-17.962-.210	+20	-.110+ 2	.08	.33	.16	39 Leonis *
2735	-7 34 10.28	75.7	-17.886-.188	+14	+.002+ 1	.08	.36	.14	22 Sextantis. G has e
2736	+44 33 24.62	76.0	-18.198-.234	+26	-.305 0	.08	.37	.15	
2737	+69 15 1.16	77.1	-17.959-.295	+51	-.041+ 1	.08	.37	.15	
2738	-28 29 31.44	79.3	-17.923-.172	+11	.000 0	.11	.45	.18	59 G Antliae
2739	-60 49 57.63	78.0	-17.937-.122	+05	-.007 0	.10	.48	.18	187 G Carinae q
2740	+54 43 7.20	54.2	-17.959-.247	+32	-.016 0	.13	.43	.27	
2741	+19 58 42.00	61.4	-18.183-.204	+19	-.231+ 1	.08	.32	.18	40 Leonis
2742	+20 20 50.63	67.9	-18.111-.208	+19	-.153- 1	.03	.14	.06	} $\Sigma$ 1424. 3''8 115°, slow
2743	+20 20 48.41	76.7	-18.141-.208	+19	-.182- 1	.06	.44	.16	
2744	+42 21 6.99	56.6	-17.981-.225	+25	+.001 0	.12	.40	.24	
2745	+84 45 37.18	77.8	-18.026-.593		-.041+ 6	.06	.25	.10	29 H Camelopardi
2746	+6 56 0.14	79.0	-18.054-.194	+16	-.063 0	.10	.36	.15	*
2747	-54 31 37.64	78.0	-18.030-.136	+07	-.018 0	.13	.58	.23	201 G Velorum (V)
2748	+2 47 34.25	61.4	-18.011-.191	+16	+.002 0	.11	.47	.25	23 Sextantis
2749	-47 11 47.12	83.6	-18.045-.148	+08	-.019 0	.12	.79	.24	202 G Velorum
2750	+41 44 13.41	63.6	-18.177-.220	+25	-.150+ 1	.10	.42	.22	

2734 O $\Sigma$  523. 11<sup>M</sup> 7'' 299°.2746  $\Sigma$  1426. 8<sup>M</sup> 7-9<sup>M</sup> 2 0''8 282°; 9<sup>M</sup> 8'' 9°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m					s	$\alpha$ Ep.	100 $\mu$
2751	$\mu$ Ursæ Maj	3.1	10	16	22.432	76.8	+3.5908-.0358	+ .016	-.0073+ 1	.03	.18	.07
2752	Br 1436	6.4		16	27.692	71.6	+3.2312-.0115	+ .008	-.0027 0	.09	.42	.18
2753	Paris 12690	6.8		16	46.399	88.8	+2.8188+.0065	+ .009	-.0041 0	.14	1.06	.27
2754	Br 1429	5.0		16	55.523	82.1	+4.3799-.1160	+ .098	-.0018 0	.05	.33	.11
2755	L 4272	4.6		17	11.497	75.6	+2.2257+.0147	+ .016	-.0021 0	.14	.60	.25
2756	Br 1438	6.1		17	20.858	77.1	+3.4676-.0266	+ .012	-.0012 0	.11	.46	.19
2757	Br 1441	6.5		17	46.512	74.4	+3.1421-.0068	+ .007	-.0015 0	.09	.32	.14
2758	L 4271	4.9		18	2.194	86.5	+2.5669+.0129	+ .012	-.0029 0	.10	.56	.17
2759	Br 1442	6.8		18	21.202	66.4	+3.0715-.0030	+ .007	+ .0031 0	.12	.50	.25
2760	Br 1443	6.3		18	23.229	82.6	+3.0333-.0015	+ .007	-.0033 0	.08	.57	.17
2761	Br 1440	5.9		18	23.817	61.8	+3.4615-.0264	+ .012	-.0008 0	.14	.46	.26
2762	Pi 22	5.3		18	54.87	77.8	+7.720-.898		-.045+37	.04	.30	.10
2763	L 4278	5.6		19	6.559	90.8	+2.6226+.0116	+ .011	-.0127- 1	.10	.69	.17
2764	Pi 65	7.3		19	19.599	80.9	+2.7528+.0090	+ .010	-.0026 0	.12	.72	.24
2765	Br 1444	6.8		19	58.985	69.5	+3.4726-.0281	+ .013	-.0092 0	.09	.34	.16
2766	Pi 64	6.1		19	59.035	68.1	+3.1656-.0079	+ .007	+ .0008 0	.09	.44	.20
2767	L 4296	5.3		20	0.307	81.5	+1.7789+.0072	+ .011	-.0010 0	.15	.84	.28
2768	Br 1445	4.9		20	11.029	57.2	+3.4516-.0264	+ .012	-.0054 0	.11	.44	.25
2769	Pi 67	8.0		20	19.145	86.8	+3.1629-.0078	+ .007	-.0015 0	.11	.48	.16
2770	Br 1447	6.1		20	44.354	75.6	+2.9975-.0000	+ .007	-.0104 0	.10	.51	.20
2771	$\mu$ Hydræ	4.0		21	15.227	76.8	+2.8999+.0040	+ .008	-.0089 0	.04	.22	.08
2772	Br 1450	7.1		21	30.588	79.5	+3.0641-.0028	+ .007	-.0036 0	.09	.34	.14
2773	Pi 70	6.2		21	32.724	66.6	+3.5709-.0359	+ .017	-.0046 0	.18	.58	.31
2774	Br 1452	7.0		21	43.693	72.4	+3.0300-.0012	+ .007	-.0047 0	.12	.48	.22
2775	Groomb 1646	6.7		21	53.669	77.5	+3.7266-.0495	+ .025	+ .0088- 7	.09	.46	.17
2776	$\beta$ Leonis Min	4.4		22	6.171	78.6	+3.4830-.0295	+ .014	-.0099 0	.04	.20	.08
2777	Br 1453	6.2		22	22.109	72.7	+3.1732-.0083	+ .007	+ .0008 0	.07	.44	.18
2778	L 4319	4.0		22	24.725	78.3	+1.2017-.0224	- .034	-.0043- 2	.10	.52	.19
2779	$\alpha$ Antliæ	4.4		22	34.559	79.1	+2.7416+.0097	+ .010	-.0053 0	.06	.36	.13
2780	Pi 69	6.6		22	48.408	75.0	+4.3156-.1150	+ .102	.0000- 1	.10	.40	.17
2781	Brisb 3017	5.6		22	57.673	91.4	+2.3061+.0164	+ .016	-.0002 0	.20	1.05	.28
2782	Pi 83	7.3		23	27.854	76.6	+3.2119-.0110	+ .008	-.0054 0	.08	.48	.18
2783	L 4310	5.0		23	40.927	90.6	+2.2283+.0164	+ .018	-.0003 0	.20	1.06	.28
2784	L 4314	4.0		24	12.471	86.2	+2.1944+.0163	+ .018	-.0020 0	.14	.78	.23
2785	Br 1454	5.0		24	13.823	79.0	+3.8700-.0660	+ .042	-.0215+ 3	.05	.26	.10
2786	L 4321	6.3		24	16.128	81.8	+1.8872+.0111	+ .015	-.0121- 2	.14	.70	.24
2787	Br 1455	6.0		24	16.360	61.0	+3.5173-.0321	+ .015	-.0009 0	.12	.38	.22
2788	Br 1457	5.3		24	23.971	71.6	+3.0481-.0019	+ .007	-.0032 0	.11	.39	.19
2789	Pi 90	6.1		24	51.781	86.0	+2.7666+.0094	+ .010	-.0051 0	.14	.69	.21
2790	$\delta$ Antliæ	5.9		24	59.082	81.5	+2.7569+.0098	+ .010	-.0034 0	.12	.57	.20
2791	L 4320	7.1		25	2.159	87.9	+2.2497+.0168	+ .018	-.0028 0	.18	.84	.26
2792	Br 1459	5.3		25	10.756	69.2	+3.0681-.0029	+ .007	-.0031 0	.11	.44	.21
2793	Br 1460	7.4		25	21.084	81.3	+3.1019-.0042	+ .007	+ .0046 0	.11	.40	.16
2794	L 4330	5.3		25	33.044	87.4	+1.9905+.0139	+ .017	-.0006 0	.18	.92	.27
2795	Br 1439	6.8		25	44.412	71.5	+6.4437-.5572	+1.408	-.0059+ 2	.07	.32	.14
2796	Br 1462	6.7		25	58.378	80.6	+3.0027+.0004	+ .008	-.0030 0	.08	.45	.15
2797	Pulkas 1642	5.7		26	5.051	91.0	+2.9454+.0030	+ .008	-.0033 0	.13	.63	.17
2798	Br 1461	6.1		26	10.814	69.9	+3.4174-.0247	+ .013	+ .0010 0	.12	.52	.24
2799	Br 1446	5.0		26	36.303	73.2	+5.2255-.2725	+ .442	-.0079+ 2	.04	.22	.09
2800	Br 1463	5.8	10	26	51.543	71.8	+3.2077-.0107	+ .008	-.0027 0	.09	.39	.17

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ ' and 100 $\Delta \mu$ '	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
2751	+42 0 8.77	71.9	-18.012-.220	+ .25	+ .020 0	.04	.17	.07	
2752	+15 28 46.90	69.3	-18.066-.198	+ .18	-.030 0	.08	.36	.17	42 Leonis
2753	-23 12 27.62	90.8	-18.020-.171	+ .12	+ .028 0	.14	1.26	.28	
2754	+66 4 19.60	77.3	-18.076-.270	+ .43	-.023 0	.05	.25	.10	30 H Ursæ Maj
2755	-55 32 22.26	73.3	-18.063-.133	+ .07	.000 0	.11	.49	.21	203 G Velorum *
2756	+34 24 46.92	74.0	-18.091-.211	+ .22	-.022 0	.10	.40	.18	27 Leonis Min
2757	+7 3 1.22	71.4	-18.192-.190	+ .16	-.106 0	.08	.29	.14	43 Leonis
2758	-41 8 48.45	77.7	-18.042-.153	+ .10	+ .053 0	.09	.39	.16	204 G Velorum r
2759	-0 23 44.64	68.2	-18.152-.184	+ .16	-.045 0	.10	.39	.19	24 Sextantis
2760	-3 34 7.34	75.2	-18.115-.182	+ .15	-.006 0	.08	.40	.16	25 Sextantis
2761	+34 13 27.52	64.1	-18.137-.209	+ .22	-.028 0	.12	.55	.28	28 Leonis Min
2762	+83 4 2.98	80.1	-18.104-.470		+ .024 + 3	.04	.27	.09	*
2763	-37 30 8.53	85.0	-18.199-.154	+ .10	-.063 + 1	.10	.53	.17	64 G Antliæ
2764	-29 8 31.27	79.6	-18.045-.163	+ .11	+ .099 0	.13	.63	.23	( $\gamma$ Antliæ)
2765	+35 56 4.05	66.0	-18.245-.206	+ .22	-.077 + 1	.08	.32	.16	29 Leonis Min
2766	+9 17 35.46	64.4	-18.211-.187	+ .17	-.043 0	.08	.47	.23	44 Leonis
2767	-66 23 43.95	75.9	-18.171-.102	+ .04	-.002 0	.11	.58	.23	191 G Carinæ L
2768	+34 18 19.05	58.8	-18.258-.204	+ .22	-.083 0	.08	.46	.25	30 Leonis Min
2769	+9 17 2.99	76.4	-18.193-.186	+ .17	-.013 0	.10	.33	.15	$\Sigma$ 5426. 10 <sup>m</sup> 3" 67°
2770	-6 33 20.44	76.6	-18.088-.175	+ .15	+ .108 + 1	.09	.45	.17	
2771	-16 19 32.82	75.5	-18.299-.168	+ .14	-.084 0	.05	.26	.10	
2772	-0 28 46.64	77.3	-18.225-.178	+ .16	-.001 0	.08	.28	.12	26 Sextantis
2773	+42 6 43.28	61.3	-18.313-.209	+ .25	-.088 0	.14	.47	.27	
2774	-3 52 45.90	73.6	-18.237-.176	+ .15	-.005 0	.10	.39	.17	27 Sextantis
2775	+49 19 8.02	75.6	-19.132-.218	+ .28	-.894 0	.07	.38	.15	
2776	+37 13 10.73	73.3	-18.356-.202	+ .23	-.110 + 1	.04	.21	.09	
2777	+10 16 19.69	68.1	-18.262-.183	+ .17	-.007 0	.06	.33	.15	45 Leonis
2778	-73 31 21.38	77.8	-18.278-.064	+ .05	-.021 0	.08	.46	.17	193 G Carinæ I
2779	-30 33 31.04	77.2	-18.263-.157	+ .11	.000 0	.07	.34	.13	
2780	+66 8 16.02	68.3	-18.316-.251	+ .42	-.045 0	.08	.30	.15	35 Ursæ Maj
2781	-54 22 4.08	84.8	-18.283-.130	+ .07	-.006 0	.15	.73	.24	209 G Velorum
2782	+14 51 16.03	75.2	-18.318-.183	+ .18	-.023 0	.08	.45	.18	
2783	-57 7 43.19	76.7	-18.309-.125	+ .06	-.007 0	.13	.56	.23	195 G Carinæ
2784	-58 13 43.46	83.3	-18.329-.122	+ .06	-.008 0	.11	.57	.19	196 G Carinæ s
2785	+56 29 36.08	70.4	-18.360-.220	+ .31	-.038 + 1	.06	.24	.11	36 Ursæ Maj
2786	-65 11 40.99	81.0	-18.307-.103	+ .05	+ .016 + 1	.11	.61	.21	198 G Carinæ
2787	+39 26 13.67	56.6	-18.327-.200	+ .24	-.004 0	.11	.39	.24	32 Leonis Min
2788	-2 13 38.02	72.5	-18.347-.172	+ .16	-.019 0	.09	.37	.17	29 Sextantis
2789	-29 9 8.53	78.5	-18.342-.154	+ .11	+ .002 0	.12	.52	.20	224 G Hydræ
2790	-30 5 43.26	76.9	-18.359-.154	+ .11	-.010 0	.11	.45	.18	h 4321. 9 <sup>m</sup> 11" 226°
2791	-56 43 19.00	84.7	-18.347-.124	+ .07	+ .003 0	.14	.65	.22	
2792	-0 7 27.07	61.3	-18.383-.172	+ .16	-.028 0	.10	.43	.23	30 Sextantis
2793	+2 39 49.10	75.2	-18.406-.174	+ .16	-.045 0	.10	.34	.16	31 Sextantis
2794	-63 39 37.76	88.3	-18.361-.108	+ .05	+ .007 0	.15	.93	.25	199 G Carinæ
2795	+81 0 35.86	68.8	-18.383-.368	+ 1.22	-.008 0	.07	.28	.14	
2796	-7 7 28.52	73.6	-18.384-.166	+ .15	-.001 0	.08	.37	.16	$\Sigma$ 1441. 10 <sup>m</sup> 2" 7 166°
2797	-13 4 31.57	88.4	-18.389-.163	+ .14	-.002 0	.13	.64	.19	225 G Hydræ
2798	+32 53 33.84	68.5	-18.398-.190	+ .22	-.008 0	.10	.46	.22	33 Leonis Min
2799	+76 13 41.46	77.9	-18.415-.294	+ .71	-.010 0	.03	.20	.07	9 H Draconis
2800	+14 39 1.71	67.2	-18.401-.177	+ .18	+ .013 0	.08	.34	.17	46 Leonis (i)

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
2801	Br 1466	7.7	10 27	6.8	31	80.1	+3.1190-.0054	+ .007	-.0009 0	.11	.36	.15
2802	Groomb 1658	4.9	27	23.9	33	59.3	+3.5156-.0337	+ .017	-.0125+ 1	.15	.78	.42
2803	L 4336	5.1	27	28.6	99	90.8	+2.3254+.0166	+ .017	-.0450- 4	.16	1.17	.28
2804	$\rho$ Leonis	3.8	27	32.7	93	71.8	+3.1627-.0079	+ .007	-.0005 0	.03	.18	.07
2805	L 4334 <sup>1</sup>	6.9	27	40.3	25	84.2	+2.5560+.0154	+ .015	-.0005 0	.18	.98	.31
2806	Pi 96	7.8	27	41.1	38	88.9	+3.7174-.0489	+ .027	+.0274- 2	.09	.45	.13
2807	L 4334 <sup>2</sup>	6.4	27	41.1	55	86.3	+2.5569+.0154	+ .015	+.0003 0	.18	.88	.28
2808	Br 1465	5.8	27	47.9	19	72.9	+3.4428-.0273	+ .013	-.0028 0	.09	.36	.16
2809	L 4357	4.9	27	48.6	95	86.0	+1.5151-.0034	- .003	+.0045 0	.18	.81	.27
2810	Pi 104	8.0	27	49.2	31	81.6	+2.9161+.0044	+ .009	-.0019 0	.15	.92	.30
2811	L 4348	3.4	28	28.0	48	78.8	+2.1247+.0168	+ .019	-.0035 0	.11	.54	.20
2812	L 4367	4.9	28	42.1	66	87.4	+1.4070-.0095	- .013	-.0001 0	.18	.90	.27
2813	Br 1464	5.2	28	43.4	23	79.0	+3.8973-.0697	+ .047	+.0083- 1	.05	.24	.09
2814	L 4344	5.1	28	43.6	40	92.2	+2.5258+.0161	+ .015	-.0006 0	.20	1.17	.28
2815	Br 1471	5.5	29	15.4	75	78.2	+2.8509+.0075	+ .009	-.0002 0	.09	.39	.15
2816	Br 1468	5.4	29	35.0	49	69.4	+3.1325-.0065	+ .007	-.0072 0	.08	.34	.16
2817	Br 1469	5.9	29	47.4	14	64.8	+3.1520-.0075	+ .007	-.0030 0	.11	.46	.24
2818	Br 1472	6.5	30	12.1	26	78.0	+2.8523+.0072	+ .010	-.0070 0	.11	.64	.24
2819	Br 1470	6.5	30	37.1	90	70.1	+3.4553-.0288	+ .014	+.0022 0	.12	.58	.26
2820	L 4358	5.5	30	46.3	57	87.2	+2.6583+.0138	+ .013	-.0026 0	.18	.90	.27
2821	Br 1474	6.5	31	23.6	78	67.7	+2.9276+.0045	+ .009	-.0019 0	.11	.50	.24
2822	Yarn 4514	6.1	31	33.6	03	89.0	+2.9863+.0024	+ .009	+.0181- 2	.09	.57	.15
2823	L 4373	4.5	31	44.7	47	83.6	+2.2956+.0187	+ .020	-.0025 0	.12	.69	.22
2824	Br 1473	6.9	32	11.9	74	79.1	+3.4146-.0262	+ .013	-.0023 0	.12	.33	.15
2825	Pi 123	5.2	32	32.0	93	80.7	+2.8116+.0091	+ .010	-.0083 0	.12	.54	.20
2826	L 4380	5.3	32	35.8	64	91.0	+2.2376+.0187	+ .021	-.0054- 1	.20	1.04	.28
2827	U Hydræ	Var.	32	36.9	44	79.2	+2.9612+.0033	+ .009	+.0024 0	.13	.87	.30
2828	Groomb 1668	5.8	32	53.6	57	63.0	+3.7498-.0584	+ .037	-.0098+ 1	.13	.54	.29
2829	Br 1475	4.9	33	5.6	66	64.0	+3.3880-.0240	+ .012	+.0005 0	.10	.40	.21
2830	L 4378 <i>m</i>	4.0	33	5.8	70	79.5	+2.5124+.0170	+ .016	-.0162- 2	.11	.51	.19
2831	Br 1477	6.0	33	24.6	35	59.7	+3.4447-.0302	+ .016	-.0188+ 1	.07	.26	.15
2832	Br 1478	6.9	33	32.7	19	61.2	+3.2225-.0118	+ .009	+.0030 0	.13	.51	.28
2833	L 4411	6.4	33	33.9	93	84.0	+1.1230-.0312	- .056	-.0057- 2	.15	.75	.25
2834	Br 1458	7.0	33	38.0	37	70.8	+6.1679-.5292	+ 1.369	+.0083- 3	.06	.32	.14
2835	L 4388	5.7	33	38.3	97	89.4	+2.2770+.0193	+ .021	-.0018 0	.20	.98	.28
2836	$\phi$ Hydræ	5.2	33	42.5	60	75.0	+2.9205+.0048	+ .009	-.0076 0	.08	.34	.14
2837	$\gamma$ Chamæleontis	4.0	34	17.3	42	83.2	+0.7440-.0693	- .149	-.0136- 5	.11	.58	.20
2838	Groomb 1669	6.1	34	41.7	74	79.4	+4.3302-.1347	+ .146	-.0060+ 1	.09	.50	.17
2839	Br 1480	7.3	34	48.9	93	63.6	+3.3309-.0200	+ .011	.0000 0	.15	.48	.27
2840	L 4396 <sup>1</sup>	4.9	34	56.6	47	82.0	+2.2769+.0198	+ .021	+.0006 0	.16	.78	.27
2841	Br 1476	5.2	35	7.6	16	65.7	+4.1444-.1106	+ .107	-.0267+ 4	.10	.42	.21
2842	L 4398	4.3	35	19.5	41	88.0	+2.3787+.0196	+ .020	-.0023 0	.15	.80	.23
2843	Brisb 3136	6.9	35	25.4	39	85.4	+2.3805+.0197	+ .020	-.0011 0	.18	.78	.26
2844	Pi 126	5.3	35	54.7	54	80.1	+4.3600-.1409	+ .159	-.0014 0	.05	.34	.12
2845	L 4399	6.8	36	17.5	37	89.3	+2.7323+.0130	+ .013	-.0031 0	.14	1.02	.26
2846	Br 1482	6.8	36	18.9	59	82.6	+3.0528-.0019	+ .008	-.0094 0	.05	.28	.09
2847	Pi 131	6.5	36	35.2	00	86.7	+3.3722-.0236	+ .013	.0000 0	.11	.54	.17
2848	L 4418	5.9	36	43.5	46	89.3	+2.0712+.0184	+ .023	-.0018 0	.20	1.00	.28
2849	L 4510	7.1	36	55.1	6-	86.2	-3.053-1.078-		-.004- 10	.07	.63	.16
2850	Br 1481	5.9	10 37	24.6	43	57.2	+3.8206-.0686	+ .049	+.0021- 1	.13	.40	.25

2803 h 4329. 8<sup>m</sup> 31" 83°; Comp. has little p.m.

2805-7 14" 218°.

2814 9<sup>m</sup> fols. 11 S 38".



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10	Remarks.
	" ' "		" "	"	"	" " "	
2801	+ 5 9 30.69	75.9	-18.395-.171	+ .16	+.028 0	.09 .33 .15	32 Sextantis
2802	+40 56 24.51	54.6	-18.440-.193	+ .24	-.007+ 1	.13 .64 .38	h 2534. 12 <sup>m</sup> 23" 322°
2803	-53 12 26.70	81.0	-18.253-.122	+ .08	+.182+ 3	.12 .56 .20	215 G Velorum*
2804	+ 9 49 16.35	69.9	-18.444-.173	+ .17	-.006 0	.03 .16 .07	
2805	-44 33 19.11	76.6	-18.433-.138	+ .09	+.009 0	.14 .67 .26	216 G Velorum s <sup>1</sup> *
2806	+49 41 51.27	85.0	-18.321-.206	+ .27	+.121- 2	.08 .36 .12	
2807	-44 33 8.60	77.5	-18.450-.138	+ .09	-.008 0	.14 .58 .23	217 G Velorum s <sup>2</sup> *
2808	+35 30 13.23	67.8	-18.467-.188	+ .22	-.021 0	.08 .32 .15	34 Leonis Min
2809	-71 28 41.86	83.3	-18.480-.079	+ .04	-.033 0	.14 .69 .23	202 G Carinæ K
2810	-16 26 30.01	80.2	-18.537-.158	+ .14	-.090 0	.13 .65 .23	(43 Hydræ $\phi^1$ )
2811	-61 10 15.16	77.6	-18.462-.112	+ .06	+.007 0	.09 .45 .17	203 G Carinæ p
2812	-72 42 26.25	83.6	-18.485-.072	+ .04	-.008 0	.15 .69 .24	204 G Carinæ
2813	+57 35 51.76	66.9	-18.447-.213	+ .32	+.031 0	.06 .22 .11	37 Ursæ Maj
2814	-46 29 17.64	79.8	-18.488-.135	+ .09	-.010 0	.13 .58 .22	219 G Velorum t *
2815	-23 13 47.70	81.5	-18.488-.152	+ .13	+.008 0	.08 .36 .13	44 Hydræ
2816	+ 7 28 6.58	53.7	-18.455-.167	+ .17	+.052 0	.08 .29 .18	48 Leonis
2817	+ 9 10 1.45	58.4	-18.525-.168	+ .17	-.011 0	.09 .35 .20	49 Leonis *
2818	-22 39 37.17	79.2	-18.486-.150	+ .13	+.042 0	.11 .75 .26	231 G Hydræ
2819	+36 50 43.41	67.1	-18.585-.184	+ .23	-.043 0	.10 .45 .22	35 Leonis Min
2820	-39 2 43.40	83.6	-18.543-.139	+ .11	+.004 0	.14 .71 .23	71 G Antliæ
2821	-15 49 35.38	70.8	-18.569-.153	+ .14	-.002 0	.11 .44 .20	( $\phi^2$ Hydræ)
2822	-11 41 36.19	87.8	-19.257-.157	+ .14	-.684- 1	.08 .73 .18	236 G Hydræ
2823	-57 2 23.46	83.4	-18.593-.118	+ .07	-.013 0	.11 .58 .19	208 G Carinæ r
2824	+34 35 50.65	76.2	-18.593-.178	+ .22	+.001 0	.11 .35 .16	36 Leonis Min
2825	-26 53 40.06	82.1	-18.602-.144	+ .12	+.003 0	.11 .47 .17	241 G Hydræ
2826	-59 2 40.98	81.1	-18.672-.113	+ .07	-.065 0	.15 .61 .23	210 G Carinæ t <sup>1</sup>
2827	-12 51 51.69	78.6	-18.622-.153	+ .14	-.015 0	.10 .71 .24	240 G Hydræ*
2828	+54 11 24.95	58.2	-18.697-.194	+ .29	-.081 0	.12 .46 .27	
2829	+32 29 44.52	64.5	-18.626-.175	+ .21	-.003 0	.08 .35 .18	37 Leonis Min
2830	-47 42 22.20	77.8	-18.653-.127	+ .09	-.030+ 1	.09 .44 .17	222 G Velorum p *
2831	+38 25 52.63	63.3	-18.679-.176	+ .23	-.046+ 1	.06 .24 .13	38 Leonis Min
2832	+16 38 52.48	57.5	-18.666-.165	+ .18	-.029 0	.13 .47 .28	50 Leonis
2833	-75 47 26.43	83.2	-18.635-.052	+ .05	+.003 0	.12 .60 .20	22 G Chamæleontis
2834	+80 56 56.29	69.1	-18.627-.323	+1.10	+.013 0	.06 .28 .13	
2835	-58 12 50.51	80.6	-18.653-.114	+ .07	-.013 0	.15 .60 .23	211 G Carinæ
2836	-16 21 26.63	74.7	-18.623-.148	+ .14	+.020 0	.06 .29 .12	( $\phi^3$ Hydræ)
2837	-78 5 20.95	81.7	-18.645-.031	+ .07	+.016+ 1	.10 .51 .18	
2838	+68 57 57.32	81.4	-18.692-.221	+ .44	-.018 0	.07 .39 .13	
2839	+28 2 46.99	61.9	-18.691-.168	+ .21	-.013 0	.13 .50 .27	39 Leonis Min
2840	-58 39 45.01	76.1	-18.695-.112	+ .07	-.013 0	.13 .56 .23	213 G Carinæ t <sup>2</sup> *
2841	+66 14 25.07	58.4	-18.761-.210	+ .38	-.073+ 1	.08 .31 .18	38 Ursæ Maj
2842	-55 4 56.87	84.7	-18.713-.117	+ .08	-.019 0	.12 .61 .20	225 G Velorum $\alpha$
2843	-55 5 10.43	84.4	-18.712-.117	+ .08	-.015 0	.15 .69 .23	
2844	+69 35 57.29	74.0	-18.735-.220	+ .44	-.022 0	.05 .24 .10	*
2845	-35 13 11.43	81.4	-18.708-.134	+ .12	+.016 0	.17 1.09 .36	76 G Antliæ
2846	-1 12 57.46	77.8	-18.854-.150	+ .16	-.129 0	.05 .25 .10	33 Sextantis
2847	+32 13 12.65	82.6	-18.764-.167	+ .21	-.030 0	.10 .45 .16	
2848	-64 34 42.54	87.7	-18.738-.099	+ .06	.000 0	.15 .87 .25	217 G Carinæ
2849	-85 34 20.94	86.7	-18.758+.165		-.014 0	.06 .57 .15	10 G Octantis
2850	+57 43 27.62	52.7	-18.816-.188	+ .31	-.057 0	.11 .34 .22	39 Ursæ Maj

2817  $\Sigma$  1450. 9<sup>m</sup> 2" 4 157°.2830 Lowell. 4<sup>m</sup> 5-5<sup>m</sup> 0 0" 7 261°.2840 Dunlop. 6<sup>m</sup> 9 15" 19°.2827 4<sup>m</sup> 5 to 6<sup>m</sup> 2 Pulkas 1654.

2844 Groomb 1673. 35 H Ursæ Maj.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
			<sup>m</sup>	<sup>h</sup>	<sup>m</sup>					<sup>a</sup> Ep.	100 $\mu$	<sup>a</sup> 10
2851	Br 1484	6.9	10	37	27.649	70.4	+3.1000-.0045	+ .008	-.0062 0	.05	.24	.11
2852	Br 1483	5.6		37	32.506	67.4	+3.3027-.0188	+ .011	-.0079 0	.09	.33	.16
2853	Pi 135	5.3		37	40.397	76.8	+3.5443-.0415	+ .025	-.0271+ 2	.08	.42	.16
2854	Br 1485	5.1		37	58.810	82.8	+3.2697-.0164	+ .011	-.0083 0	.05	.32	.10
2855	Br 1489	7.2		38	4.470	77.8	+2.8726+.0081	+ .010	-.0010 0	.13	.68	.26
2856	L 4415	5.9		38	5.059	85.5	+2.7773+.0120	+ .012	-.0007 0	.12	.78	.22
2857	Pi 137	7.7		38	8.405	78.7	+3.5420-.0415	+ .025	-.0268+ 2	.10	.51	.19
2858	Br 1487	6.6		38	9.507	63.4	+3.1174-.0051	+ .008	+ .0020 0	.11	.42	.22
2859	L 4440	5.2		38	41.177	80.4	+2.1203+.0198	+ .024	-.0025 0	.15	.69	.25
2860	L 4435	5.5		38	48.600	87.0	+2.3099+.0211	+ .023	-.0002 0	.16	.99	.28
2861	L 4426	7.5		39	4.980	94.2	+2.7065+.0148	+ .014	+ .0022 0	.14	1.05	.22
2862	$\theta$ Carinæ	2.8		39	23.294	68.9	+2.1303+.0202	+ .025	-.0033 0	.09	.36	.17
2863	L 4446	4.4		39	43.752	92.4	+2.2718+.0213	+ .024	-.0049- 1	.16	1.17	.26
2864	Br 1491	6.7		40	0.328	68.8	+3.0932-.0039	+ .008	-.0032 0	.09	.44	.20
2865	Br 1488	6.7		40	6.571	66.0	+3.7941-.0685	+ .051	-.0058 0	.11	.42	.22
2866	Br 1490	5.4		40	18.359	84.4	+3.3463-.0225	+ .012	-.0020 0	.04	.28	.08
2867	L 4455	5.1		40	29.800	82.6	+2.1615+.0210	+ .025	-.0020 0	.18	.75	.27
2868	Br 1493	6.6		40	53.312	72.9	+3.1266-.0058	+ .008	-.0005 0	.06	.28	.12
2869	Br 1492	5.9		41	1.343	67.0	+3.2377-.0133	+ .010	+ .0062 0	.11	.45	.22
2870	Br 1494	5.8		41	7.545	70.2	+3.1818-.0103	+ .009	-.0090 0	.09	.40	.18
2871	$\eta$ Carinæ	Var.		41	10.817	66.4	+2.3181+.0220	+ .024	+ .0005 0	.06	.33	.16
2872	Brisb 3200	7.2		41	57.603	87.3	+2.8463+.0093	+ .010	-.0129 0	.13	.90	.24
2873	Br 1496	5.7		41	58.111	69.1	+2.9370+.0056	+ .009	-.0009 0	.11	.46	.22
2874	Br 1495	7.8		42	7.153	75.2	+3.1229-.0058	+ .008	-.0031 0	.08	.27	.12
2875	$\mu$ Velorum	2.6		42	28.033	78.2	+2.5692+.0196	+ .019	+ .0052 0	.09	.39	.15
2876	L 4471	5.6		42	39.210	88.6	+2.1628+.0217	+ .027	-.0027- 1	.20	.96	.28
2877	Pi 159	8.0		42	41.691	93.7	+2.9450+.0048	+ .009	-.0080 0	.13	.63	.16
2878	L 4473	5.5		42	50.986	84.6	+2.1776+.0220	+ .026	-.0001 0	.18	.82	.28
2879	L 4468	5.5		42	55.342	89.8	+2.4116+.0221	+ .023	-.0012 0	.20	1.05	.29
2880	L 4475	5.1		43	12.752	88.8	+2.1759+.0221	+ .027	-.0011 0	.20	.96	.28
2881	Br 1497	6.5		43	26.396	80.4	+3.3180-.0212	+ .012	-.0068 0	.11	.39	.16
2882	Br 1502	7.4		43	57.213	72.3	+3.0072+.0019	+ .009	+ .0005 0	.13	.68	.29
2883	Br 1500	5.5		44	0.101	77.7	+3.1574-.0080	+ .008	-.0001 0	.03	.18	.06
2884	L 4469	7.2		44	12.736	92.6	+2.8422+.0104	+ .011	-.0053 0	.14	1.22	.26
2885	Br 1503 s *	7.2		44	13.042	67.4	+3.0424-.0004	+ .008	-.0035 0	.12	.46	.23
2886	L 4509 m	5.6		44	19.000	80.0	+0.6180-.0967	-.250	-.0112- 8	.13	.70	.25
2887	Br 1501	6.3		44	24.054	71.3	+3.3072-.0199	+ .012	-.0002 0	.09	.39	.18
2888	$\nu$ Hydræ	3.3		44	41.423	69.9	+2.9578+.0054	+ .009	+ .0065+ 1	.05	.24	.11
2889	$\delta$ Chamæleontis	4.6		44	50.818	76.3	+0.6097-.0980	-.254	-.0183- 10	.06	.50	.18
2890	Br 1499	6.0		45	1.314	65.3	+3.7280-.0648	+ .048	-.0085+ 1	.13	.42	.23
2891	Br 1498	5.9		45	6.717	66.3	+3.8069-.0745	+ .060	-.0040 0	.10	.33	.17
2892	Br 1505	6.0		45	17.044	82.7	+3.0087+.0019	+ .009	-.0007 0	.08	.44	.14
2893	L 4483	5.9		45	17.778	84.2	+2.7838+.0133	+ .013	-.0050 0	.15	.88	.27
2894	Br 1507	6.9		46	12.311	76.3	+2.9336+.0063	+ .010	-.0029 0	.14	.54	.23
2895	Pi 170	7.0		46	30.420	65.2	+3.6323-.0538	+ .038	-.0010 0	.11	.52	.26
2896	Pi 171	6.8		46	32.203	69.0	+3.6247-.0535	+ .038	-.0072+ 1	.11	.48	.22
2897	Groomb 1697	6.3		46	40.188	81.4	+4.1731-.1393	+ .177	-.0789+ 19	.08	.54	.18
2898	Br 1506	5.5		47	31.245	78.0	+3.6602-.0585	+ .042	-.0083+ 1	.09	.36	.15
2899	Br 1509	3.9		47	43.269	75.5	+3.3674-.0258	+ .015	+ .0074- 1	.04	.22	.09
2900	$\omega$ Ursæ Maj	4.9	10	48	13.495	70.4	+3.4703-.0364	+ .022	+ .0042 0	.07	.30	.14

2852  $\beta$  913. 13<sup>M</sup> 13" 118°.2885  $\Sigma$  1476. 8<sup>M</sup> 0 2" 1°, very slow.2858  $\Sigma$  1466. 7<sup>M</sup> 6 7" 240°.2886 Innes. 6<sup>M</sup> 2-6<sup>M</sup> 4 0" 6 61°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
2851	+ 4 6 20.28	69.5	-18.740-.151	+ .17	+ .021 0	.05	.24	.11	34 Sextantis
2852	+26 51 2.57	64.6	-18.828-.161	+ .20	-.065 0	.08	.31	.16	40 Leonis Min *
2853	+46 43 45.88	73.7	-18.841-.172	+ .25	-.074+ 1	.07	.34	.14	
2854	+23 42 42.91	79.6	-18.772-.159	+ .20	+ .005 0	.04	.23	.08	41 Leonis Min
2855	-23 1 30.85	77.0	-18.758-.138	+ .13	+ .022 0	.13	.91	.34	
2856	-32 11 31.81	80.2	-18.788-.134	+ .12	-.008 0	.11	.55	.20	78 G Antliæ
2857	+46 43 56.99	73.2	-18.853-.171	+ .25	-.071+ 1	.09	.44	.19	
2858	+ 5 16 20.66	56.8	-18.815-.151	+ .17	-.033 0	.10	.36	.22	35 Sextantis*
2859	-63 56 35.27	76.5	-18.791-.099	+ .06	+ .007 0	.12	.53	.22	221 G Carinæ
2860	-58 41 31.37	78.0	-18.822-.109	+ .07	-.020 0	.12	.57	.22	222 G Carinæ
2861	-38 32 4.03	89.4	-18.814-.128	+ .11	-.004 0	.15	.77	.22	
2862	-63 52 13.88	71.9	-18.811-.099	+ .06	+ .009 0	.08	.34	.16	
2863	-60 2 31.72	82.6	-18.837-.105	+ .07	-.007 0	.12	.57	.20	224 G Carinæ w
2864	+ 3 0 49.97	62.3	-18.863-.146	+ .17	-.025 0	.09	.43	.22	36 Sextantis
2865	+57 53 36.31	49.1	-18.908-.180	+ .30	-.067 0	.11	.35	.24	41 Ursæ Maj
2866	+31 12 32.41	83.1	-18.888-.158	+ .21	-.041 0	.04	.26	.08	42 Leonis Min
2867	-63 26 10.31	84.8	-18.848-.099	+ .06	+ .005 0	.15	.73	.24	229 G Carinæ
2868	+ 6 54 0.81	66.2	-18.902-.146	+ .17	-.038 0	.06	.22	.11	37 Sextantis
2869	+19 25 7.50	63.0	-18.916-.152	+ .19	-.048 0	.10	.42	.22	51 Leonis m
2870	+14 43 21.34	64.3	-18.950-.148	+ .18	-.079 0	.08	.33	.17	52 Leonis k
2871	-59 9 31.32	67.9	-18.871-.106	+ .07	+ .002 0	.06	.31	.14	1 <sup>M</sup> to 7 <sup>M</sup> 4
2872	-25 31 22.67	85.1	-18.863-.130	+ .13	+ .033+ 1	.13	.82	.24	250 G Hydræ
2873	-16 46 10.45	71.3	-18.915-.135	+ .14	-.019 0	.11	.46	.21	Hydræ b <sup>1</sup>
2874	+ 6 52 26.32	66.4	-18.927-.143	+ .17	-.027 0	.06	.20	.11	38 Sextantis
2875	-48 53 30.48	79.9	-18.970-.116	+ .09	-.059 0	.08	.37	.14	Russell 7 <sup>M</sup> 2'' 63°
2876	-63 59 16.79	88.9	-18.949-.096	+ .06	-.033 0	.16	.87	.24	236 G Carinæ
2877	-15 5 54.00	83.7	-18.973-.134	+ .14	-.056 0	.11	.41	.15	Σ 1473. 9 <sup>M</sup> 31'' 10°
2878	-63 44 11.22	85.4	-18.922-.097	+ .06	.000 0	.15	.75	.24	237 G Carinæ
2879	-56 13 48.10	81.4	-18.945-.108	+ .08	-.021 0	.14	.63	.23	230 G Velorum
2880	-63 51 23.09	88.6	-18.944-.096	+ .06	-.012 0	.16	.86	.24	238 G Carinæ
2881	+29 56 42.66	75.0	-18.992-.150	+ .21	-.053 0	.10	.35	.16	43 Leonis Min
2882	- 8 34 15.66	70.3	-18.982-.135	+ .15	-.029 0	.11	.46	.21	39 Sextantis
2883	+11 4 27.56	74.8	-18.988-.142	+ .17	-.033 0	.03	.20	.08	53 Leonis l
2884	-27 23 23.02	88.1	-18.954-.126	+ .13	+ .007 0	.14	.98	.26	253 G Hydræ
2885	- 3 29 42.74	65.8	-18.974-.136	+ .15	-.013 0	.09	.34	.17	40 Sextantis*
2886	-79 56 29.51	73.0	-18.993-.020	+ .08	-.029+ 1	.10	.49	.21	25 G Chamæleontis δ <sup>1</sup> *
2887	+28 30 6.81	67.0	-18.945-.148	+ .21	+ .021 0	.07	.31	.15	44 Leonis Min
2888	-15 40 13.30	70.8	-18.781-.131	+ .14	+ .193 0	.05	.27	.12	
2889	-80 0 46.05	76.4	-18.983-.020	+ .08	-.004+ 1	.06	.42	.15	26 G Chamæleontis δ <sup>2</sup>
2890	+57 6 42.01	52.3	-18.987-.166	+ .28	-.003 0	.12	.33	.22	43 Ursæ Maj
2891	+59 51 4.08	60.8	-19.042-.170	+ .30	-.056 0	.08	.28	.16	42 Ursæ Maj
2892	- 8 22 4.64	77.8	-19.009-.132	+ .15	-.018 0	.08	.40	.15	41 Sextantis*
2893	-33 31 45.05	74.1	-18.987-.122	+ .12	+ .004 0	.14	.60	.26	80 G Antliæ
2894	-17 48 8.37	77.2	-19.009-.127	+ .14	+ .008 0	.12	.47	.20	
2895	+53 5 48.41	58.0	-19.046-.159	+ .26	-.021 0	.12	.45	.26	
2896	+53 2 8.26	61.3	-19.088-.158	+ .26	-.062 0	.12	.44	.24	
2897	+70 23 12.72	79.6	-19.100-.180	+ .41	-.071+ 3	.07	.43	.15	
2898	+55 7 0.22	67.1	-19.070-.157	+ .27	-.018 0	.09	.27	.15	44 Ursæ Maj
2899	+34 45 14.23	72.9	-19.348-.144	+ .22	-.290 0	.04	.23	.09	46 Leonis Min
2900	+43 43 20.41	60.4	-19.107-.148	+ .23	-.035 0	.06	.24	.14	

2892 h 838. 12<sup>M</sup> 27'' 303°.



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
2901	L 4507	5.6	10 48 24.999	88.8	+2.4462+.0239	+.025	-.0007 0	.20	.94	.28
2902	Br 1513	5.4	48 35.927	77.9	+2.9320+.0072	+.010	+.0055 0	.07	.33	.13
2903	Pulk <sub>ss</sub> 1694	6.0	48 38.208	85.9	+3.0546-.0011	+.008	-.0063 0	.10	.50	.16
2904	Br 1512	6.3	49 16.355	80.2	+3.2657-.0176	+.012	-.0048 0	.12	.34	.16
2905	Brisb 3272	6.9	49 18.709	87.7	+2.4111+.0247	+.026	-.0028 0	.16	.86	.25
2906	Lal 20978	6.0	49 19.865	99.4	+2.9776+.0044	+.009	+.0006 0	.15	1.05	.19
2907	Br 1511	5.9	49 24.727	77.3	+3.3467-.0252	+.015	-.0048 0	.11	.34	.16
2908	L 4515	3.8	49 25.791	77.5	+2.4237+.0251	+.026	+.0078- 1	.11	.52	.20
2909	Br 1515	4.5	50 12.005	71.0	+3.2561-.0170	+.012	-.0055 0	.08	.32	.14
2910	Br 1514	5.2	50 12.189	76.9	+3.3347-.0245	+.015	-.0084 0	.13	.69	.26
2911	L 4518	6.5	50 28.834	87.0	+2.7133+.0178	+.016	-.0031 0	.13	1.18	.30
2912	Pi 191	6.3	50 32.235	71.7	+3.4394-.0345	+.021	+.0010 0	.20	.62	.31
2913	Br 1517	6.1	50 33.720	60.6	+3.0880-.0025	+.009	+.0068 0	.10	.46	.25
2914	Br 1516	7.6	50 36.366	85.8	+3.2024-.0124	+.010	-.0047 0	.12	.45	.16
2915	Br 1519	6.3	50 49.960	66.5	+3.1177-.0053	+.009	-.0014 0	.14	.46	.25
2916	Br 1520	7.2	51 2.811	60.4	+3.0792-.0023	+.009	+.0002 0	.14	.52	.29
2917	T Carinae	Var.	51 17.530	87.7	+2.3876+.0260	+.028	-.0015 0	.18	.93	.27
2918	Br 1508	6.5	51 57.802	79.7	+4.9362-.3082	+.660	-.0249+ 10	.05	.32	.11
2919	Antliae	4.7	52 3.423	81.8	+2.7897+.0156	+.014	+.0073 0	.09	.42	.15
2920	Br 1522	5.3	53 52.078	63.2	+3.3745-.0315	+.020	-.0280+ 2	.08	.27	.15
2921	Pi 203	6.4	53 58.092	74.3	+3.3611-.0271	+.016	+.0064- 1	.13	.90	.34
2922	Groomb 1722	5.7	54 30.228	63.1	+3.4647-.0392	+.025	+.0014 0	.16	.69	.36
2923	L 4540	6.0	54 30.489	86.0	+2.8280+.0142	+.013	+.0022 0	.12	.82	.23
2924	Groomb 1723	6.3	54 40.536	78.2	+3.4185-.0352	+.022	-.0099 0	.11	.54	.20
2925	$\alpha$ Crateris	4.2	54 54.099	76.9	+2.9197+.0067	+.010	-.0326- 1	.06	.30	.12
2926	Br 1524	5.2	55 14.312	61.6	+3.3765-.0304	+.019	-.0057 0	.14	.39	.24
2927	Br 1526	5.1	55 23.783	74.3	+3.0999-.0037	+.009	+.0006 0	.04	.27	.10
2928	Br 1527	5.2	55 33.826	63.9	+3.1119-.0051	+.009	-.0036 0	.09	.39	.20
2929	L 4550	4.6	55 33.911	85.8	+2.7442+.0186	+.016	+.0021 0	.12	.75	.22
2930	$\beta$ Ursae Maj	2.2	55 48.619	74.9	+3.6497-.0624	+.049	+.0102- 1	.03	.15	.06
2931	Br 1530	5.1	56 43.632	80.9	+3.0612-.0006	+.009	+.0012 0	.07	.39	.13
2932	Br 1529	4.4	56 59.538	71.6	+3.2085-.0134	+.010	-.0011 0	.10	.39	.18
2933	$\alpha$ Ursae Maj	1.7	57 33.641	66.8	+3.7403-.0805	+.075	-.0168+ 2	.03	.12	.06
2934	Br 1531	6.4	57 33.891	82.1	+2.8991+.0111	+.011	+.0044 0	.10	.50	.17
2935	Lal 21185	7.8	57 52.396	83.8	+3.2916-.0286	+.017	-.0469- 8	.08	.52	.16
2936	Pi 225	6.4	58 7.630	81.8	+3.0708-.0014	+.009	-.0002 0	.10	.44	.16
2937	Par 13527	5.8	58 14.758	97.0	+2.9995+.0037	+.009	-.0052 0	.14	1.04	.29
2938	Br 1533	6.2	58 29.493	74.2	+3.0713-.0017	+.009	-.0044 0	.10	.39	.17
2939	L 4571	6.8	58 30.088	83.5	+2.8531+.0137	+.012	-.0028 0	.13	.69	.22
2940	Br 1532	6.1	58 57.749	74.0	+3.3488-.0289	+.018	-.0061 0	.10	.34	.16
2941	Pi 228	7.8	59 10.411	87.3	+3.3466-.0288	+.018	-.0074+ 1	.12	.48	.16
2942	$\chi$ Leonis	4.7	59 51.549	75.6	+3.0970-.0055	+.009	-.0233 0	.03	.16	.06
2943	Br 1534	7.8	10 59 55.314	76.8	+3.2096-.0166	+.012	-.0297+ 1	.08	.28	.12
2944	$\eta$ Octantis	6.4	11 0 1.18	78.6	-.0291-.330		-.042- 40	.06	.56	.18
2945	L 4584	6.1	0 1.228	85.6	+2.6875+.0221	+.020	-.0122- 1	.18	1.32	.37
2946	L 4580	5.7	0 10.744	80.9	+2.8269+.0159	+.014	-.0015 0	.16	.99	.33
2947	$\chi^1$ Hydrae	5.2	0 30.769	75.2	+2.8841+.0115	+.011	-.0153- 1	.10	.38	.16
2948	$\chi^2$ Hydrae	5.9	1 6.575	78.4	+2.9029+.0117	+.011	+.0017 0	.12	.54	.21
2949	Br 1537	7.1	1 42.426	86.6	+3.2322-.0170	+.012	-.0047 0	.11	.39	.14
2950	Br 1539	5.8	11 1 48.192	74.4	+3.0619-.0026	+.009	-.0251 0	.06	.27	.11

2908  $7^m.6$  fols.  $1^s.8$ , N  $62''$ .2913  $\beta$  1076.  $10^m$   $0''.8$   $32^\circ$ , slow.2909  $\Sigma$  1487.  $7^m$   $6''$  106°.2917  $6^m.2$  to  $6^m.9$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors.			Remarks.
						$\delta$ Ep.	100 $\mu'$	$\delta$ 10	
2901	— 56 42 32.46	80.9	— 19.071— .102	+ .08	+ .006 0	.15	.60	.23	244 G Carinæ
2902	— 19 36 1.12	73.7	— 19.323— .123	+ .14	— .241 0	.08	.39	.16	Hydræ $b^3$
2903	— 1 35 52.15	83.7	— 19.079— .128	+ .16	+ .004 0	.09	.42	.14	
2904	+ 26 1 23.11	75.7	— 19.106— .136	+ .20	— .006 0	.11	.35	.16	48 Leonis Min
2905	— 58 21 41.26	85.9	— 19.104— .098	+ .08	— .003 0	.14	.71	.22	245 G Carinæ
2906	— 13 13 33.39	97.9	— 19.073— .124	+ .15	+ .028 0	.16	1.15	.21	
2907	+ 34 34 6.59	75.6	— 19.172— .140	+ .21	— .068 0	.10	.35	.16	47 Leonis Min
2908	— 58 19 19.37	74.8	— 19.082— .099	+ .08	+ .022 0	.09	.42	.17	246 G Carinæ $u^*$
2909	+ 25 16 59.35	69.3	— 19.141— .134	+ .19	— .017 0	.06	.26	.12	54 Leonis*
2910	+ 34 2 26.51	67.3	— 19.169— .137	+ .21	— .045 0	.11	.43	.21	
2911	— 41 43 4.98	87.2	— 19.148— .110	+ .11	— .016 0	.12	1.17	.29	235 G Velorum
2912	+ 42 32 38.98	71.3	— 19.233— .142	+ .23	— .100 0	.14	.45	.22	
2913	+ 1 16 12.20	52.8	— 19.145— .126	+ .16	— .011 0	.08	.33	.21	55 Leonis*
2914	+ 18 41 8.85	79.9	— 19.125— .131	+ .18	+ .010 0	.11	.37	.16	(49 Leonis Min)
2915	+ 6 43 8.47	51.2	— 19.151— .127	+ .17	— .010 0	.10	.30	.20	56 Leonis
2916	+ 0 57 59.48	55.5	— 19.153— .125	+ .16	— .007 0	.11	.46	.27	57 Leonis
2917	— 59 59 9.02	83.8	— 19.079— .095	+ .08	+ .074 0	.15	.71	.24	249 G Carinæ*
2918	+ 78 18 21.40	81.3	— 19.197— .201	+ .64	— .027+1	.05	.33	.11	
2919	— 36 36 0.55	79.3	— 19.311— .111	+ .12	— .139 0	.09	.41	.16	
2920	+ 40 57 51.47	63.5	— 19.168— .131	+ .22	+ .050+1	.07	.27	.14	47 Ursæ Maj
2921	+ 36 37 48.76	67.9	— 19.276— .131	+ .21	— .056 0	.13	.67	.31	
2922	+ 46 3 44.39	60.2	— 19.229— .134	+ .23	+ .005 0	.15	.58	.33	
2923	— 33 12 0.95	78.0	— 19.287— .108	+ .13	— .053 0	.12	.52	.21	259 G Hydræ*
2924	+ 43 27 4.51	74.5	— 19.380— .132	+ .23	— .142 0	.10	.42	.18	
2925	— 17 45 58.53	75.9	— 19.123— .110	+ .14	+ .121+1	.06	.25	.10	
2926	+ 39 44 56.88	62.4	— 19.283— .129	+ .22	— .031 0	.11	.40	.22	49 Ursæ Maj
2927	+ 4 9 15.83	71.6	— 19.277— .117	+ .17	— .021 0	.04	.21	.09	58 Leonis $d$
2928	+ 6 38 19.26	54.0	— 19.290— .118	+ .17	— .030 0	.07	.29	.18	59 Leonis $c$
2929	— 41 41 22.42	82.6	— 19.267— .103	+ .12	— .007 0	.10	.56	.18	239 G Velorum $i$
2930	+ 56 55 6.48	71.9	— 19.238— .139	+ .27	+ .028 0	.03	.15	.07	
2931	— 1 56 46.52	73.9	— 19.325— .113	+ .16	— .037 0	.07	.34	.14	61 Leonis $p^2$
2932	+ 20 42 58.28	75.5	— 19.270— .119	+ .18	+ .024 0	.07	.33	.14	60 Leonis $b$
2933	+ 62 17 27.18	61.7	— 19.381— .138	+ .30	— .074+1	.02	.12	.06	$\beta$ 1077. $10^M$ 0''6 284°, slow
2934	— 26 17 24.80	78.8	— 19.432— .106	+ .14	— .125 0	.10	.45	.17	
2935	+ 36 38 24.53	81.3	— 24.061— .118	+ .21	— 4.746+2	.07	.46	.15	Pulk <sub>ss</sub> 1720 *
2936	— 0 12 39.86	77.2	— 19.433— .111	+ .16	— .112 0	.09	.39	.16	
2937	— 10 45 43.99	94.6	— 19.435— .108	+ .15	— .112 0	.13	.86	.18	
2938	+ 0 32 15.31	70.4	— 19.329— .110	+ .16	.000 0	.08	.38	.17	62 Leonis $p^3$
2939	— 31 25 18.00	75.6	— 19.360— .102	+ .13	— .031 0	.13	.61	.25	263 G Hydræ
2940	+ 38 46 48.46	69.9	— 19.345— .120	+ .21	— .005 0	.09	.32	.16	51 Ursæ Maj*
2941	+ 38 47 8.11	84.5	— 19.332— .120	+ .21	+ .013 0	.12	.46	.17	
2942	+ 7 52 35.91	72.4	— 19.407— .108	+ .17	— .047+1	.03	.16	.07	
2943	+ 25 44 34.29	73.1	— 19.444— .112	+ .19	— .082+1	.07	.26	.12	51 Leonis Min
2944	— 84 3 21.32	82.0	— 19.378+ .021	—	— .014+2	.05	.40	.12	
2945	— 47 8 27.09	82.5	— 19.349— .093	+ .12	+ .015 0	.14	.95	.30	247 G Velorum
2946	— 35 15 55.48	75.4	— 19.363— .098	+ .13	+ .005 0	.17	1.27	.47	85 G Antliæ
2947	— 26 45 13.95	78.5	— 19.388— .099	+ .14	— .013+1	.09	.37	.15	$\chi$ Hydræ. Br 1536
2948	— 26 44 50.93	73.5	— 19.418— .099	+ .14	— .029 0	.11	.48	.21	Br 1538
2949	+ 26 4 40.48	80.4	— 19.433— .110	+ .19	— .031 0	.10	.34	.14	52 Leonis Min
2950	+ 2 29 54.10	71.3	— 19.491— .103	+ .17	— .087+1	.06	.24	.11	65 Leonis ( $p^2$ , $p^3$ , $p^4$ ) *

2923 Innes.  $9^M$  1''5 177°.  
2940 Hough.  $12^M$  8'' 247°.

2935 Parallax. 0''50. 22 H Camelop.  
2950  $\beta$  599.  $12^M$  2'' 90°, very slow.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
2951	Br 1540	6.7	11 2 18.642	69.5	+3.2194-.0154	+ .012	-.0002 0	.15	.58	.28
2952	L 4611	4.7	2 26.366	84.6	+2.4474+.0311	+ .035	-.0033- 1	.16	.88	.28
2953	Radcl 2612	7.5	2 29.98	85.8	+8.014-.1832		-.031+ 44	.08	.51	.14
2954	L 4603	5.4	2 39.161	89.0	+2.7678+.0198	+ .017	-.0055 0	.14	.87	.23
2955	L 4625	5.9	3 13.187	91.4	+2.1488+.0314	+ .048	-.0064- 2	.15	.98	.24
2956	Br 1541	5.8	3 27.230	70.7	+3.2261-.0163	+ .012	+ .0002 0	.10	.44	.20
2957	Br 1544	5.6	3 53.591	75.3	+2.8973+.0122	+ .012	-.0061 0	.10	.40	.18
2958	$\psi$ Ursæ Maj	3.0	4 2.627	75.1	+3.3904-.0364	+ .024	-.0055 0	.03	.14	.06
2959	Br 1543	7.1	4 7.346	69.4	+3.0638-.0008	+ .009	-.0041 0	.11	.56	.25
2960	L 4627	3.9	4 19.007	89.5	+2.5466+.0301	+ .032	-.0024 0	.15	.98	.25
2961	L 4629	5.5	4 24.151	92.3	+2.4788+.0317	+ .035	-.0046- 1	.20	1.17	.28
2962	L 4623	6.0	5 4.928	81.6	+2.8766+.0146	+ .013	+ .0011 0	.13	.81	.26
2963	Pi 257	6.9	5 43.012	86.7	+3.5089-.0539	+ .042	-.0062+ 1	.09	.48	.15
2964	$\beta$ Crateris	4.6	6 44.345	79.0	+2.9463+.0099	+ .011	+ .0001 0	.05	.22	.09
2965	L 4649	5.8	7 59.626	83.6	+2.7198+.0247	+ .022	-.0120- 1	.18	.98	.32
2966	L 4652	4.7	8 18.541	90.0	+2.5607+.0326	+ .035	+ .0013 0	.20	1.04	.28
2967	Pi 9 m	7.2	8 25.857	69.6	+3.1577-.0125	+ .010	-.0272+ 1	.10	.48	.22
2968	L 4651	6.0	8 34.917	87.9	+2.7869+.0219	+ .020	.0000 0	.18	1.23	.33
2969	L 4657	5.6	8 36.872	89.4	+2.4690+.0349	+ .041	-.0041- 1	.15	.93	.24
2970	Br 1547	5.6	8 38.444	71.2	+3.0723-.0012	+ .009	-.0025 0	.08	.36	.16
2971	Dpt 1287 maj.	7.9	8 38.817	69.8	+4.0144-.1650	+ .280	-.0947+ 33	.09	.45	.20
2972	$\delta$ Leonis	2.5	8 47.479	70.5	+3.1970-.0132	+ .011	+ .0106- 1	.03	.14	.06
2973	Pi 12	6.2	8 50.054	73.4	+3.1197-.0055	+ .009	+ .0026 0	.09	.46	.20
2974	$\theta$ Leonis	3.3	8 59.611	80.4	+3.1525-.0098	+ .010	-.0043 0	.04	.24	.08
2975	L 4656	6.0	9 9.594	89.9	+2.6870+.0279	+ .026	+ .0005 0	.20	1.05	.29
2976	Br 1549	4.8	9 53.216	67.6	+3.1981-.0148	+ .012	-.0011 0	.10	.39	.19
2977	Groomb 1755	6.8	10 18.916	77.4	+3.4770-.0505	+ .039	+ .0188- 2	.10	.45	.18
2978	Br 1550	5.7	10 38.054	71.3	+3.1422-.0084	+ .010	-.0006 0	.09	.30	.14
2979	Pi 22	7.0	10 44.396	76.4	+3.1377-.0081	+ .010	-.0025 0	.10	.51	.20
2980	Pi 19	6.1	11 3.834	84.8	+3.4009-.0432	+ .032	-.0093+ 1	.05	.38	.11
2981	L 4673	7.4	11 23.437	92.6	+2.8293+.0202	+ .017	-.0030 0	.15	.90	.22
2982	$\phi$ Leonis	4.6	11 34.655	70.6	+3.0496+.0008	+ .009	-.0075 0	.06	.28	.13
2983	Br 1552	5.6	12 8.626	62.9	+3.0879-.0021	+ .009	+ .0032 0	.09	.33	.18
2984	$\xi$ Ursæ Maj c.g.		12 51.015	73.3	+3.2103-.0209	+ .015	-.0333+ 1			
2985	$\nu$ Ursæ Maj	3.5	13 4.744	77.0	+3.2513-.0225	+ .016	-.0018 0	.04	.18	.07
2986	Pi 32	7.7	13 11.498	81.9	+3.1039+.0016	+ .009	+ .0530 0	.10	.68	.22
2987	Br 1555	4.8	13 40.982	57.9	+3.2826-.0275	+ .019	-.0049 0	.12	.39	.23
2988	Br 1556	6.2	13 46.998	65.7	+3.0792-.0018	+ .009	-.0034 0	.11	.36	.20
2989	$\delta$ Crateris	3.8	14 20.437	69.5	+2.9967+.0065	+ .010	-.0085 0	.03	.16	.07
2990	$\sigma$ Leonis	4.2	15 58.830	74.0	+3.0955-.0040	+ .009	-.0063 0	.03	.18	.07
2991	L 4724	6.5	16 0.312	86.9	+2.1392+.0416	+ .079	-.0078- 3	.15	.90	.26
2992	$\pi$ Centauri	4.2	16 26.720	73.8	+2.7216+.0307	+ .029	-.0040- 1	.12	.46	.21
2993	Pi 43	6.1	16 54.992	83.4	+3.6042-.0849	+ .093	-.0007 0	.05	.39	.11
2994	Arm 2465	7.3	17 15.016	89.3	+3.1457-.0105	+ .011	-.0071 0	.09	.58	.15
2995	Br 1559	5.1	17 20.437	57.3	+3.3087-.0334	+ .024	-.0027 0	.12	.39	.24
2996	L 4728	5.1	18 22.036	84.4	+2.8969+.0182	+ .015	-.0025 0	.15	.86	.27
2997	$\lambda$ Crateris	5.3	18 24.360	68.2	+2.9710+.0086	+ .011	-.0219- 1	.09	.36	.17
2998	L 4734	6.2	18 35.554	87.1	+2.7101+.0333	+ .033	-.0031 0	.15	.87	.25
2999	$\epsilon$ Leonis	4.0	18 42.706	72.4	+3.1297-.0064	+ .010	+ .0105 0	.04	.20	.08
3000	Br 1562	5.7	11 18 54.404	70.0	+3.0784-.0014	+ .009	-.0021 0	.09	.40	.19

2954 h 4409. 9<sup>M</sup> 2" 270°.2966 h 4414. 10<sup>M</sup> 22" 275°.



## CATALOGUE OF 6188 STARS FOR 1900

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No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
2951	+23 51 51.12	65.3	-19.418-.109	+19	-.003 0	.13	.44	.24	64 Leonis
2952	-61 53 1.60	77.4	-19.414-.080	+.08	+.004 0	.12	.58	.22	257 G Carinae $\alpha$
2953	+86 10 57.97	81.2	-19.421-.281		-.002+ 1	.10	.57	.19	
2954	-42 5 56.05	83.8	-19.378-.091	+12	+.044 0	.11	.60	.19	4 G Centauri *
2955	-70 20 13.22	89.1	-19.449-.068	+.06	-.014 0	.12	.73	.19	259 G Carinae
2956	+25 11 59.25	70.7	-19.442-.107	+19	-.002 0	.08	.35	.16	67 Leonis, 53 Leonis Min
2957	-27 32 18.78	78.9	-19.475-.094	+14	-.026 0	.10	.41	.16	271 G Hydræ
2958	+45 2 27.88	71.3	-19.490-.111	+22	-.038 0	.03	.15	.07	
2959	-0 47 28.81	69.1	-19.460-.100	+16	-.006 0	.10	.41	.20	66 Leonis
2960	-58 25 59.90	84.3	-19.460-.081	+.09	-.002 0	.12	.61	.20	260 G Carinae $\alpha$
2961	-61 24 19.89	81.2	-19.459-.078	+.09	+.001 0	.15	.63	.24	261 G Carinae
2962	-31 49 28.67	76.9	-19.528-.091	+13	-.054 0	.12	.71	.26	272 G Hydræ
2963	+54 41 27.87	84.5	-19.457-.112	+.24	+.030 0	.09	.39	.13	
2964	-22 16 47.50	80.4	-19.609-.091	+14	-.101 0	.05	.25	.09	
2965	-48 33 29.65	77.1	-19.509-.081	+12	+.024 0	.14	.65	.26	9 G Centauri
2966	-59 46 25.33	79.8	-19.544-.075	+10	-.005 0	.14	.59	.23	263 G Carinae $\gamma$ *
2967	+20 40 34.36	66.0	-19.688-.094	+18	-.147+ 1	.08	.32	.16	$\Sigma$ 1517. 8 <sup>M</sup> 0-8 <sup>M</sup> 0 o'15 275°, slow
2968	-43 49 41.69	87.6	-19.578-.082	+12	-.034 0	.15	1.17	.30	11 G Centauri
2969	-63 37 33.20	86.3	-19.551-.072	+.09	-.006 0	.12	.61	.19	264 G Carinae
2970	+0 28 28.15	69.8	-19.557-.091	+16	-.011 0	.07	.30	.14	69 Leonis $\rho$ <sup>5</sup>
2971	+74 1 0.42	74.6	-19.439-.119	+39	+.107+ 3	.08	.41	.17	*
2972	+21 4 17.57	68.5	-19.693-.095	+18	-.145 0	.02	.13	.06	
2973	+08 36 28.25	71.1	-19.673-.093	+17	-.124 0	.08	.40	.18	
2974	+15 58 34.05	74.8	-19.638-.093	+18	-.086 0	.04	.20	.08	
2975	-52 41 18.20	84.1	-19.522-.078	+11	+.034 0	.14	.71	.23	13 G Centauri
2976	+23 38 26.09	61.0	-19.580-.092	+19	-.010 0	.08	.33	.18	72 Leonis
2977	+53 18 59.85	68.6	-19.530-.101	+.24	+.048- 1	.08	.32	.16	$\Sigma$ 1520. 8 <sup>M</sup> 13" 345°
2978	+13 51 10.48	67.8	-19.610-.090	+18	-.026 0	.09	.28	.15	73 Leonis $\eta$
2979	+13 23 29.22	76.3	-19.665-.089	+18	-.079 0	.10	.52	.20	
2980	+50 1 19.20	79.2	-19.611-.096	+22	-.019 0	.06	.32	.12	
2981	-40 28 33.23	87.2	-19.622-.078	+13	-.024 0	.16	.75	.23	17 G Centauri
2982	-3 6 17.88	68.3	-19.645 .085	+16	-.044 0	.06	.31	.14	
2983	+2 33 37.25	57.8	-19.763-.085	+17	-.152 0	.08	.28	.16	75 Leonis
2984	+32 5 30.34	70.7	-20.222-.086	+.20	-.598+ 1				See Appendix
2985	+33 38 23.53	70.9	-19.613-.088	+.20	+.015 0	.04	.20	.09	$\Sigma$ 1524. 10 <sup>M</sup> 7" 146°
2986	-4 30 59.97	81.4	-19.772-.085	+16	-.142- 2	.09	.54	.18	
2987	+38 44 2.47	53.0	-19.723-.088	+.20	-.084 0	.10	.39	.24	55 Ursæ Maj
2988	+2 11 55.32	55.1	-19.697-.081	+17	-.056 0	.09	.28	.18	76 Leonis
2989	-14 14 14.58	70.4	-19.455-.078	+16	+.195 0	.03	.16	.07	
2990	+6 34 38.48	71.4	-19.693-.078	+17	-.015 0	.03	.17	.07	
2991	-74 35 42.02	82.5	-19.687-.051	+.06	-.008 0	.12	.61	.21	2 G Muscæ
2992	-53 56 35.19	72.4	-19.704-.066	+12	-.018 0	.09	.38	.17	
2993	+64 52 40.06	78.3	-19.658-.090	+.27	+.036 0	.05	.31	.11	
2994	+17 59 8.39	85.6	-19.722-.076	+18	-.023 0	.07	.51	.14	71 Leonis
2995	+44 1 52.47	54.8	-19.725-.081	+.21	-.024 0	.10	.34	.21	56 Ursæ Maj
2996	-35 36 58.24	71.1	-19.749-.068	+14	-.032 0	.14	.64	.29	26 G Centauri
2997	-18 13 49.52	69.5	-19.758-.069	+15	-.040+ 1	.09	.35	.17	
2998	-56 13 50.75	82.2	-19.735-.062	+12	-.014 0	.12	.59	.20	27 G Centauri
2999	+11 4 48.15	75.8	-19.807-.074	+17	-.085 0	.04	.19	.08	$\Sigma$ 1536. 7 <sup>M</sup> 2"6 55°, binary
3000	+1 57 23.93	58.5	-19.724-.072	+17	+.002 0	.08	.27	.16	79 Leonis

2971  $\Sigma$  1516. 8<sup>M</sup>2 19" 98°; 12<sup>M</sup> 7" 302°.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and $100 \Delta \mu$	Prob. Errors, $\alpha$ Ep. $100 \mu$ $\alpha 10$
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	" " "
3001	L 4737 <sup>2</sup>	5.6	11 19 2.027	88.0	+2.5752+.0413	+ .049	-.0011 0	.18 .96 .28
3002	$\epsilon$ Crateris	5.2	19 33.513	71.8	+3.0273+.0048	+ .010	-.0024 0	.10 .39 .18
3003	L 4736	6.7	19 34.962	92.5	+2.8583+.0226	+ .019	-.0020 0	.14 .94 .22
3004	Pi 60	6.2	19 47.758	64.4	+3.1141-.0068	+ .010	-.0077 0	.15 .63 .32
3005	$\gamma$ Crateris	4.2	19 53.116	72.8	+2.9931+.0083	+ .010	-.0075 0	.06 .30 .13
3006	L 4744	5.8	20 11.856	79.7	+2.3682+.0481	+ .077	-.0056- 2	.15 .75 .27
3007	Pi 59	6.0	20 18.795	76.5	+3.4117-.0545	+ .048	-.0072+ 1	.09 .40 .16
3008	Br 1565	6.0	20 23.584	63.8	+3.1327-.0097	+ .010	-.0099 0	.12 .54 .28
3009	Br 1566	7.1	20 31.053	66.2	+3.0869-.0024	+ .009	-.0009 0	.13 .48 .24
3010	L 4739	5.5	20 38.467	87.8	+2.8992+.0184	+ .015	-.0101- 1	.10 .68 .18
3011	Br 1567	6.7	20 41.711	73.8	+3.0848-.0026	+ .009	-.0051 0	.11 .32 .16
3012	L 4752	7.0	21 17.629	87.4	+2.3149+.0492	+ .085	-.0188- 5	.18 .82 .26
3013	L 4747	5.4	21 23.335	85.8	+2.5780+.0397	+ .048	-.0464- 9	.20 .78 .27
3014	Br 1568	6.7	21 41.623	69.2	+3.0380-.0020	+ .009	-.0482 0	.06 .24 .12
3015	Pi 71	7.5	21 42.639	69.3	+3.0383-.0020	+ .009	-.0478 0	.10 .44 .20
3016	L 4751	5.6	22 5.366	82.2	+2.6780+.0387	+ .042	-.0044- 1	.16 .81 .28
3017	$\kappa$ Crateris	6.2	22 7.248	78.0	+3.0192+.0057	+ .010	-.0072 0	.07 .28 .11
3018	L 4748	6.0	22 7.734	87.9	+2.7811+.0311	+ .028	-.0036 0	.20 .87 .27
3019	L 4749	7.1	22 40.423	86.4	+2.9646+.0128	+ .012	-.0053 0	.13 .88 .25
3020	Pi 77	6.6	22 47.083	68.2	+3.0652+.0004	+ .009	-.0028 0	.15 .57 .28
3021	$\tau$ Leonis	5.3	22 47.692	71.5	+3.0865-.0020	+ .009	+ .0013 0	.04 .21 .09
3022	Pi 74	6.0	23 21.914	77.4	+3.4617-.0706	+ .073	-.0162+ 4	.09 .46 .17
3023	Br 1571	5.4	23 41.101	73.1	+3.2442-.0276	+ .020	-.0044 0	.09 .36 .16
3024	L 4754	5.5	23 46.073	87.0	+2.8793+.0232	+ .020	-.0028 0	.16 .75 .24
3025	Br 1573	6.2	24 29.348	60.4	+3.1292-.0089	+ .010	-.0022 0	.12 .45 .26
3026	L 4757	5.9	24 40.169	93.8	+2.9776+.0122	+ .012	-.0037 0	.12 1.04 .21
3027	Groomb 1782	6.2	24 47.934	73.7	+4.4049-.3770	+ 1.256	-.0652+ 44	.06 .34 .14
3028	Br 1574	6.0	25 6.535	83.5	+3.2613-.0319	+ .024	-.0048 0	.06 .30 .10
3029	Br 1576	5.1	25 12.312	72.8	+3.0650+.0012	+ .009	+ .0013 0	.06 .27 .12
3030	Br 1575	5.9	25 15.995	69.7	+3.1361-.0107	+ .011	-.0055 0	.08 .34 .16
3031	$\lambda$ Draconis	4.0	25 28.342	69.6	+3.6126-.1093	+ .151	-.0074+ 2	.03 .15 .07
3032	Br 1577	6.6	26 35.178	67.3	+3.1011-.0081	+ .010	-.0230 0	.08 .27 .14
3033	Groomb 1797 <sup>m</sup>	5.6	26 41.031	68.2	+3.4304-.0677	+ .069	-.0005 0	.11 .66 .30
3034	Pi 94	7.1	26 51.400	71.0	+3.0507+.0030	+ .009	-.0017 0	.10 .40 .19
3035	$\alpha^1$ Centauri	5.0	27 8.602	87.2	+2.7562+.0390	+ .040	+ .0003 0	.16 .78 .24
3036	$\alpha^2$ Centauri	5.3	27 11.358	86.3	+2.7524+.0390	+ .040	-.0030- 1	.18 .84 .27
3037	Pi 95	6.2	27 18.624	78.9	+2.9676+.0152	+ .013	-.0007 0	.12 .50 .20
3038	Pi 96	5.7	27 18.954	79.4	+2.9655+.0152	+ .013	-.0028 0	.12 .56 .21
3039	Pi 98	6.4	27 42.523	74.7	+3.0473+.0038	+ .010	-.0011 0	.10 .51 .21
3040	L 4778	5.7	27 55.927	87.9	+2.9098+.0222	+ .018	-.0068 0	.15 .81 .23
3041	Br 1579	5.3	27 57.264	79.8	+2.9590+.0163	+ .013	-.0035 0	.14 .68 .24
3042	$\xi$ Hydræ	3.6	28 4.953	80.5	+2.9436+.0166	+ .014	-.0159- 1	.07 .39 .13
3043	L 4785 <sup>m</sup>	5.7	28 44.789	91.2	+2.9125+.0224	+ .018	-.0072- 1	.12 .72 .18
3044	Br 1582	6.0	29 14.871	69.0	+3.0713-.0018	+ .009	-.0123 0	.07 .28 .14
3045	Br 1583	6.0	29 30.232	73.0	+3.1270-.0094	+ .011	-.0007 0	.10 .30 .15
3046	Groomb 1800	5.9	29 34.492	64.0	+3.3295-.0499	+ .044	+ .0013 0	.14 .62 .32
3047	Br 1584	6.3	29 37.866	81.7	+2.9074+.0171	+ .014	-.0533- 2	.12 .75 .24
3048	L 4794	4.8	30 1.093	86.1	+2.8276+.0342	+ .032	-.0073- 1	.20 .81 .27
3049	L 4795	5.6	30 9.520	90.6	+2.8576+.0292	+ .025	-.0180- 2	.18 1.22 .30
3050	Br 1581	5.5	11 30 11.392	69.9	+3.5683-.1071	+ .147	+ .0228- 7	.08 .30 .14

3001 h 4432. 7<sup>m</sup> 1 2'' 4 294°.3023  $\Sigma$  1543. 8<sup>m</sup> 5'' 5 3°, very slow.3024 Dunlop. 8<sup>m</sup> 14'' 168°.3026 Jacob. 8<sup>m</sup> 8'' 79°.3032  $\Sigma$  1547. 8<sup>m</sup> 6 16'' 324°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10	Remarks.
	" ' "		" "	"	" "	" " "	
3001	-64 24 21.52	82.3	-19.739-.058	+1.10	-.011 0	.14 .65 .23	4 G Muscæ*
3002	-10 18 38.97	69.4	-19.713-.069	+1.16	+.023 0	.09 .34 .16	
3003	-42 7 12.08	89.9	-19.754-.065	+1.14	-.018 0	.12 .73 .19	28 G Centauri
3004	+11 58 46.40	64.8	-19.766-.071	+1.17	-.027 0	.12 .52 .26	
3005	-17 8 5.25	72.9	-19.744-.067	+1.16	-.003 0	.06 .30 .13	h 840, 10 <sup>m</sup> 5" 97°
3006	-71 42 25.63	78.0	-19.754-.051	+1.08	-.009 0	.12 .61 .23	5 G Muscæ
3007	+56 23 55.14	68.6	-19.705-.077	+1.23	+.042 0	.08 .31 .15	
3008	+17 0 21.94	61.1	-19.771-.070	+1.18	-.023 0	.08 .36 .20	81 Leonis
3009	+3 51 6.98	65.5	-19.804-.069	+1.17	-.054 0	.12 .43 .23	82 Leonis
3010	-35 30 50.45	78.8	-19.745-.064	+1.14	+.007 0	.11 .51 .19	29 G Centauri
3011	+4 24 38.53	67.8	-19.802-.068	+1.17	-.049 0	.10 .30 .16	80 Leonis
3012	-73 5 2.24	83.2	-19.715-.048	+1.07	+.047 0	.14 .63 .22	
3013	-63 25 14.58	83.7	-19.842-.053	+1.10	-.079+1	.15 .65 .23	31 G Centauri
3014	+3 33 28.93	67.0	-19.594-.064	+1.17	+.173+1	.06 .24 .12	183 Leonis
3015	+3 33 3.58	71.3	-19.603-.064	+1.17	+.165+1	.10 .50 .22	1540. 29" 150°
3016	-60 33 54.29	80.8	-19.780-.056	+1.11	-.007 0	.13 .67 .24	33 G Centauri
3017	-11 48 26.04	76.1	-19.761-.064	+1.16	+.013 0	.07 .34 .14	
3018	-52 36 36.55	86.2	-19.760-.058	+1.13	+.014 0	.16 .75 .24	32 G Centauri
3019	-25 18 40.56	85.2	-19.755-.062	+1.15	+.027 0	.13 .81 .24	280 G Hydræ
3020	-1 8 58.48	70.3	-19.786-.064	+1.17	-.003 0	.13 .49 .23	
3021	+3 24 25.01	69.5	-19.802-.064	+1.17	-.019 0	.04 .19 .09	
3022	+62 19 21.00	68.0	-19.549-.072	+1.24	+.242 0	.08 .39 .18	
3023	+39 53 14.37	64.5	-19.787-.066	+1.20	+.009 0	.08 .28 .15	57 Ursæ Maj*
3024	-42 7 25.13	78.6	-19.797-.058	+1.14	+.001 0	.13 .51 .21	34 G Centauri*
3025	+15 57 55.87	62.4	-19.865-.062	+1.18	-.058 0	.12 .47 .25	85 Leonis
3026	-23 54 48.26	92.0	-19.794-.058	+1.15	+.015 0	.12 .93 .21	33 G Crateris*
3027	+81 40 40.08	74.0	-19.772-.088	+1.50	+.039+1	.08 .37 .16	
3028	+43 43 19.72	77.7	-19.744-.064	+1.20	+.071 0	.06 .29 .11	58 Ursæ Maj
3029	-2 27 6.40	66.4	-19.833-.059	+1.17	-.017 0	.05 .22 .11	87 Leonis e
3030	+18 57 37.39	69.1	-19.815-.060	+1.18	+.002 0	.07 .30 .14	86 Leonis
3031	+69 52 58.80	72.0	-19.844-.070	+1.27	-.024 0	.03 .14 .06	
3032	+14 55 17.31	64.2	-20.030-.057	+1.18	-.196 0	.07 .27 .14	88 Leonis*
3033	+61 38 10.62	65.3	-19.914-.064	+1.23	-.079 0	.11 .54 .26	*
3034	-5 54 59.28	71.2	-19.930-.056	+1.16	-.092 0	.08 .35 .16	
3035	-58 53 24.58	83.2	-19.859-.049	+1.12	-.018 0	.13 .57 .20	L 4774*
3036	-58 57 49.81	84.9	-19.860-.049	+1.12	-.018 0	.16 .69 .24	L 4775
3037	-28 42 54.60	75.2	-19.705-.053	+1.15	+.138 0	.12 .48 .21	284 G Hydræ
3038	-28 42 47.14	74.9	-19.709-.053	+1.15	+.134 0	.11 .47 .20	W. H. 9" 210°
3039	-7 16 31.62	76.0	-19.857-.054	+1.16	-.009 0	.09 .47 .18	
3040	-39 53 8.39	83.1	-19.802-.051	+1.14	+.049 0	.13 .61 .21	39 G Centauri
3041	-30 32 6.60	73.0	-19.850-.052	+1.15	+.001 0	.12 .51 .22	287 G Hydræ
3042	-31 18 15.52	77.0	-19.904-.051	+1.15	-.051 0	.07 .34 .13	
3043	-40 2 6.09	83.0	-19.846-.049	+1.14	+.015 0	.11 .47 .17	41 G Centauri*,
3044	+3 36 55.86	67.1	-19.978-.051	+1.17	-.111 0	.07 .29 .14	89 Leonis
3045	+17 20 58.74	67.8	-19.874-.052	+1.18	-.004 0	.09 .28 .15	90 Leonis*
3046	+55 20 16.03	58.5	-19.874-.056	+1.21	-.004 0	.12 .55 .31	
3047	-32 18 5.92	76.1	-19.058-.046	+1.15	+.813+1	.13 .63 .25	289 G Hydræ
3048	-53 42 42.74	79.2	-19.879-.045	+1.13	-.003 0	.14 .58 .23	42 G Centauri A
3049	-48 35 18.43	88.2	-19.716-.045	+1.14	+.161 0	.15 .99 .26	43 G Centauri
3050	+69 52 45.57	67.4	-20.008-.060	+1.26	-.130 0	.07 .26 .13	2 Draconis

3033 OZ 235. 5<sup>m</sup>9-7<sup>m</sup>2. <1"; binary, 66 yrs.  $\pm$ .  
 3043 Innes. 6<sup>m</sup>4-6<sup>m</sup>5 1"1 92°.

3035 h 4445. 10<sup>m</sup> 15" 126°.  
 3045 Z 1552. 7<sup>m</sup>3 3" 212°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			<sup>m</sup>	<sup>h</sup>	<sup>m</sup>					<sup>a</sup> Ep.	100 $\mu$	<sup>a</sup> 10
3051	L 4796	5.7	II	30	23.783	85.3	+2.8789+.0278	+0.024	-.0100- 1	.20	1.12	.34
3052	Pi 111 <i>m</i>	6.0	31	2.289	69.6	69.6	+3.1654-.0167	+0.014	+.0022 0	.10	.48	.22
3053	Brisb 3663	5.5	31	4.659	94.0	94.0	+2.8940+.0285	+0.023	+.0026 0	.13	1.08	.22
3054	$\lambda$ Centauri	3.1	31	10.023	77.0	77.0	+2.7447+.0451	+0.030	-.0060- 1	.10	.45	.18
3055	$\theta$ Crateris	4.9	31	36.531	77.6	77.6	+3.0413+.0050	+0.010	-.0041 0	.06	.27	.11
3056	Br 1587	6.0	31	37.293	84.8	84.8	+2.0684+.0182	+0.015	+.0033 0	.14	.81	.25
3057	L 4810	6.0	31	42.246	93.1	93.1	+2.7779+.0427	+0.044	-.0035- 1	.21	1.18	.29
3058	$\nu$ Leonis	4.5	31	49.716	76.2	76.2	+3.0716+.0004	+0.010	.0000 0	.03	.18	.07
3059	Pi 118	7.0	31	59.065	89.2	89.2	+3.0005+.0120	+0.011	-.0047 0	.14	.88	.23
3060	L 4808	6.8	32	3.494	84.6	84.6	+2.9677+.0179	+0.015	-.0014 0	.15	.93	.28
3061	L 4816	5.2	32	22.933	88.4	88.4	+2.7567+.0424	+0.046	-.0290- 5	.18	.96	.27
3062	L 4815	5.5	32	43.119	85.7	85.7	+2.8933+.0287	+0.024	-.0077- 1	.20	.78	.27
3063	Br 1588	5.7	33	0.962	75.7	75.7	+3.2115-.0312	+0.024	-.0134+ 1	.10	.32	.14
3064	$\pi$ Chamæleontis	5.8	33	8.215	83.6	83.6	+2.4497+.0680	+0.136	-.0250- 10	.11	.93	.27
3065	L 4826	6.0	33	16.549	90.9	90.9	+2.6901+.0531	+0.069	-.0148- 4	.20	1.05	.28
3066	Pi 126	6.5	33	17.489	65.7	65.7	+3.0645+.0013	+0.010	-.0027 0	.13	.52	.27
3067	$\omega$ Virginis	5.7	33	18.224	75.0	75.0	+3.0953-.0042	+0.010	-.0008 0	.10	.40	.17
3068	Brisb 3689	5.4	33	26.958	82.7	82.7	+2.7819+.0444	+0.048	-.0086- 2	.16	.82	.28
3069	Groomb 1812	6.7	33	29.141	81.7	81.7	+3.1747-.0321	+0.026	-.0555+ 6	.08	.50	.16
3070	$\iota$ Crateris	5.8	33	35.290	63.5	63.5	+3.0438+.0069	+0.010	+.0060 0	.13	.44	.24
3071	L 4843	5.1	34	51.461	85.5	85.5	+2.7560+.0507	+0.061	-.0048- 1	.20	.81	.28
3072	Groomb 1816	6.5	34	59.289	82.9	82.9	+3.3091-.0556	+0.054	-.0010 0	.12	.52	.18
3073	$\alpha$ Hydræ	4.9	35	14.712	88.3	88.3	+2.9721+.0194	+0.015	-.0024 0	.09	.56	.15
3074	Br 1592	5.4	35	35.125	71.9	71.9	+3.1248-.0119	+0.012	-.0047 0	.10	.40	.18
3075	Br 1593	5.5	35	47.152	72.2	72.2	+3.1695-.0216	+0.017	-.0007 0	.08	.30	.14
3076	L 4856	4.9	36	9.925	90.9	90.9	+2.8171+.0463	+0.050	+.0007 0	.20	1.00	.27
3077	L 4845	6.8	36	10.369	88.8	88.8	+2.9718+.0158	+0.014	-.0248- 1	.14	.94	.24
3078	Br 1596	5.9	36	22.046	68.5	68.5	+3.1320-.0190	+0.016	-.0273+ 2	.09	.33	.16
3079	L 4852	5.8	36	24.546	87.6	87.6	+2.9348+.0254	+0.021	-.0115- 1	.16	1.26	.33
3080	L 4857	5.3	36	44.294	82.6	82.6	+2.9877+.0181	+0.015	-.0002 0	.12	.62	.21
3081	Br 1595	5.6	36	53.893	80.9	80.9	+3.3861-.0851	+0.108	-.0077+ 2	.05	.33	.11
3082	L 4866	6.8	37	49.710	85.6	85.6	+2.6107+.0767	+0.141	+.0093+ 3	.13	.78	.23
3083	Pi 146	7.0	38	19.663	77.0	77.0	+3.1892-.0285	+0.022	+.0021 0	.09	.50	.18
3084	L 4863	6.3	38	28.329	88.6	88.6	+2.9791+.0214	+0.017	.0000 0	.12	.64	.18
3085	L 4868	5.2	38	44.809	83.5	83.5	+2.8387+.0480	+0.052	-.0015 0	.18	.78	.27
3086	Pi 148	6.5	38	48.631	67.6	67.6	+3.0634+.0038	+0.010	+.0043 0	.11	.54	.26
3087	$\zeta$ Crateris	5.0	39	41.609	79.6	79.6	+3.0368+.0101	+0.011	+.0024 0	.06	.26	.10
3088	$\xi$ Virginis	5.0	40	7.800	69.1	69.1	+3.0945-.0040	+0.010	+.0042 0	.09	.34	.16
3089	$\nu$ Virginis	4.3	40	43.183	62.3	62.3	+3.0851-.0030	+0.010	-.0012 0	.06	.26	.14
3090	$\chi$ Ursæ Maj	3.9	40	46.312	75.4	75.4	+3.1846-.0352	+0.030	-.0136+ 2	.03	.15	.06
3091	L 4878	5.5	40	46.883	84.3	84.3	+2.9535+.0284	+0.023	-.0064- 1	.18	.94	.30
3092	$\lambda$ Muscæ	3.7	40	53.098	85.6	85.6	+2.8041+.0566	+0.071	-.0161- 3	.13	.78	.23
3093	Groomb 1825	5.6	41	34.586	75.9	75.9	+3.2345-.0484	+0.045	+.0019 0	.13	.45	.20
3094	L 4885	4.1	41	40.468	87.1	87.1	+2.8791+.0471	+0.049	-.0036- 1	.14	.78	.23
3095	L 4887	5.1	41	44.960	85.9	85.9	+2.8506+.0223	+0.019	-.1327- 10	.14	.81	.24
3096	L 4892	5.5	42	25.937	91.9	91.9	+2.9097+.0422	+0.040	-.0042- 1	.20	1.16	.28
3097	Br 1602	5.4	42	46.674	67.6	67.6	+3.0845-.0038	+0.010	-.0034 0	.11	.40	.20
3098	Br 1603	4.6	42	49.659	66.4	66.4	+3.0993-.0106	+0.012	-.0110 0	.09	.32	.16
3099	$\mu$ Muscæ	4.7	43	25.687	86.9	86.9	+2.8538+.0591	+0.073	+.0010 0	.18	.94	.28
3100	Pi 161	5.6	43	42.011	85.2	85.2	+3.0249+.0152	+0.013	-.0007 0	.10	.75	.21

3052  $\Sigma$  1555. Triple. 6<sup>m</sup>6-7<sup>m</sup>0 1''  $\pm$ , slow; 11<sup>m</sup> 21'' 147°.3071 Innes. 11<sup>m</sup> 12'' 340°; 11<sup>m</sup> 15'' 210°.3056 h 4455. 9<sup>m</sup> 4'' 244°.3080 h 4465. 10<sup>m</sup> 26'' 344°; 8<sup>m</sup> fols. 3°7, N 48°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
3051	-46 49 10.45	77.3	-19.911-.045	+14	-.031 0	.15	.69	.27	44 G Centauri C <sup>1</sup>
3052	+28 20 1.67	65.9	-19.907-.050	+18	-.020 0	.08	.41	.20	*
3053	-47 5 13.84	88.4	-19.942-.045	+14	-.055 0	.10	.58	.16	45 G Centauri C <sup>2</sup>
3054	-62 27 59.53	78.3	-19.910-.042	+12	-.022 0	.09	.41	.16	
3055	-9 14 57.24	74.3	-19.892-.046	+16	+.001 0	.07	.32	.13	
3056	-33 0 57.10	74.4	-19.941-.045	+15	-.048 0	.14	.60	.26	291 G Hydræ*
3057	-60 29 57.03	89.1	-19.883-.041	+12	+.011 0	.17	.87	.25	50 G Centauri
3058	-0 16 18.10	72.5	-19.861-.046	+17	+.035 0	.03	.16	.07	
3059	-22 23 46.31	88.4	-19.865-.045	+16	+.032 0	.11	.59	.17	39 G Crateris
3060	-32 25 56.93	76.6	-19.977-.044	+15	-.079 0	.14	.64	.26	292 G Hydræ
3061	-60 43 47.80	87.3	-19.905-.039	+12	-.003+ 1	.16	.80	.24	52 G Centauri
3062	-47 11 39.48	82.4	-19.889-.042	+14	+.017 0	.15	.61	.23	53 G Centauri C <sup>3</sup>
3063	+44 10 47.46	68.8	-19.960-.046	+20	-.052 0	.09	.27	.14	59 Ursæ Maj
3064	-5 20 34.83	83.4	-19.933-.033	+09	-.024 0	.10	.73	.22	
3065	-67 3 59.00	88.5	-19.944-.037	+12	-.033 0	.15	.94	.25	11 G Muscæ
3066	-1 52 57.89	65.5	-19.914-.044	+17	-.003 0	.10	.38	.19	$\Sigma$ 1560. 10 <sup>M</sup> 5" 280°
3067	+8 41 15.85	71.3	-19.917-.044	+17	-.006 0	.09	.34	.16	
3068	-61 16 23.15	80.1	-19.908-.038	+13	+.004 0	.13	.65	.23	54 G Centauri
3069	+45 39 42.03	76.7	-19.894-.044	+20	+.019+ 1	.08	.36	.14	$\Sigma$ 1561. 8 <sup>M</sup> 5 10" 259°
3070	-12 39 5.33	66.9	-19.810-.043	+16	+.104 0	.11	.42	.21	
3071	-64 50 36.78	80.9	-19.947-.034	+12	-.021 0	.15	.61	.23	12 G Muscæ*
3072	+58 31 26.94	79.0	-19.910-.044	+21	+.018 0	.11	.42	.17	
3073	-34 11 25.45	84.6	-19.929-.038	+15	+.001 0	.10	.49	.16	
3074	+21 54 29.41	71.8	-19.988-.040	+18	-.055 0	.08	.35	.16	92 Leonis
3075	+34 45 59.38	68.9	-20.325-.040	+18	-.390 0	.06	.28	.13	61 Ursæ Maj
3076	-61 32 8.03	80.9	-19.936-.034	+13	+.002 0	.15	.60	.23	58 G Centauri
3077	-28 38 52.09	85.5	-19.736-.036	+15	+.203 0	.14	.93	.27	294 G Hydræ
3078	+32 17 58.51	65.0	-19.929-.038	+18	+.011 0	.08	.33	.17	62 Ursæ Maj
3079	-42 32 29.17	80.1	-19.975-.036	+15	-.034 0	.15	1.47	.34	59 G Centauri
3080	-31 56 38.71	76.2	-20.010-.036	+16	-.066 0	.11	.47	.19	295 G Hydræ*
3081	+67 17 54.17	74.4	-19.909-.041	+23	+.036 0	.05	.25	.10	3 Draconis
3082	-74 40 20.50	82.7	-19.956-.028	+10	-.003 0	.10	.57	.19	13 G Muscæ ( $\pi^2$ Cham.)
3083	+42 16 38.72	74.2	-19.978-.035	+19	-.021 0	.08	.38	.16	
3084	-36 38 4.33	87.1	-19.991-.032	+15	-.033 0	.13	.67	.20	60 G Centauri
3085	-61 56 3.88	78.5	-19.971-.030	+13	-.010 0	.14	.57	.23	61 G Centauri
3086	-6 7 15.97	69.6	-20.014-.033	+17	-.053 0	.10	.47	.22	
3087	-17 47 41.21	77.0	-20.007-.031	+16	-.039 0	.06	.25	.10	
3088	+8 48 50.25	60.8	-19.999-.031	+17	-.027 0	.07	.24	.14	
3089	+7 5 23.06	65.2	-20.163-.029	+17	-.187 0	.05	.20	.10	
3090	+48 20 1.82	71.8	-19.960-.030	+19	+.016 0	.03	.16	.07	
3091	-45 8 5.69	75.4	-19.976-.028	+15	.000 0	.14	.60	.25	64 G Centauri
3092	-66 10 27.67	82.3	-19.949-.025	+13	+.028 0	.10	.56	.18	
3093	+56 11 4.07	74.4	-20.022-.029	+20	-.040 0	.11	.35	.17	
3094	-60 37 20.74	84.1	-20.012-.025	+14	-.029 0	.11	.56	.18	65 G Centauri
3095	-39 57 21.89	86.4	-19.596-.022	+15	+.387+ 3	.13	.77	.22	66 G Centauri
3096	-57 8 29.06	88.8	-19.985-.024	+14	+.003 0	.16	.85	.24	68 G Centauri
3097	+8 48 4.26	66.5	-19.989-.025	+17	+.001 0	.09	.39	.19	4 Virginis A <sup>1</sup>
3098	+20 46 28.41	62.5	-20.010-.025	+17	-.020 0	.07	.29	.16	93 Leonis*
3099	-66 15 31.01	77.7	-20.023-.022	+14	-.029 0	.13	.58	.23	
3100	-26 11 37.70	81.1	-20.022-.023	+16	-.026 0	.09	.41	.15	298 G Hydræ

3098  $\Sigma$  App. 8<sup>M</sup> 4 74" 355°, fixed.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
		M	h m s		s s	s	s	"	"	"
3101	$\beta$ Leonis	2.2	11 43 57.583	67.0	+3.0634-.0071	+0.011	-.0342+ 1	.02	.11	.05
3102	Pi 164	6.0	44 30.010	88.9	+3.1271-.0210	+0.017	-.0096+ 1	.13	.52	.17
3103	L 4903	4.5	44 48.987	87.9	+2.8949+.0533	+0.059	-.0020 0	.20	.87	.27
3104	L 4907	4.9	45 9.363	86.2	+2.8367+.0692	+0.099	-.0022- 1	.20	.82	.28
3105	$\beta$ Virginis	3.6	45 29.181	69.7	+3.1253-.0002	+0.010	+0.0495 0	.03	.13	.06
3106	L 4908	5.8	45 33.397	84.8	+2.9132+.0516	+0.055	-.0002 0	.18	.86	.28
3107	L 4905	6.9	45 34.017	83.9	+3.0240+.0156	+0.013	-.0060 0	.14	.87	.27
3108	Pi 167	6.0	45 55.479	70.1	+3.0659+.0035	+0.010	+0.0004 0	.08	.54	.23
3109	L 4910	4.5	46 8.622	87.3	+2.9835+.0288	+0.023	-.0092- 1	.15	.99	.27
3110	L 4913	6.2	46 38.071	85.3	+3.0247+.0179	+0.014	-.0022 0	.13	.72	.22
3111	L 4920	5.1	46 57.666	83.3	+2.9063+.0573	+0.067	-.0056- 1	.18	.78	.28
3112	Groomb 1830	6.7	47 12.990	73.9	+3.4720-.0300	+0.031	+3.405- 35			
3113	L 4922	5.8	47 13.389	83.9	+2.9455+.0424	+0.040	-.0146- 2	.18	.75	.27
3114	Pi 170	7.2	47 37.062	84.4	+3.0957-.0075	+0.011	+0.0027 0	.12	.44	.16
3115	$\beta$ Hydræ <i>m</i>	4.4	47 51.368	75.1	+3.0213+.0202	+0.016	-.0045 0	.09	.39	.16
3116	L 4926	6.5	48 23.755	82.3	+3.0164+.0210	+0.016	-.0094- 1	.16	.80	.28
3117	$\gamma$ Ursæ Maj	2.3	48 34.380	69.2	+3.1756-.0430	+0.040	+0.0107- 1	.02	.11	.05
3118	Pi 179	7.7	48 45.201	72.6	+3.0665+.0029	+0.010	-.0022 0	.14	.75	.31
3119	L 4933	5.7	49 37.015	76.4	+3.0471+.0151	+0.013	+0.0032 0	.11	.48	.19
3120	Br 1609	6.8	49 53.691	58.1	+3.1362-.0321	+0.028	+0.0006 0	.12	.39	.23
3121	Br 1611	5.8	49 55.345	75.3	+3.0796-.0035	+0.010	-.0020 0	.11	.30	.15
3122	Br 1610	7.1	49 59.403	65.9	+3.1365-.0321	+0.027	+0.0015 0	.14	.51	.26
3123	Br 1613	5.7	50 32.037	68.2	+3.0901-.0074	+0.011	+0.0017 0	.12	.57	.27
3124	Br 1614	6.3	50 34.921	83.0	+3.0433+.0168	+0.014	+0.0001 0	.13	.61	.21
3125	Br 1612	6.2	50 45.082	61.8	+3.1574-.0475	+0.046	+0.0015 0	.13	.52	.28
3126	$\eta$ Crateris	5.3	50 55.127	77.2	+3.0533+.0101	+0.011	-.0033 0	.09	.36	.15
3127	L 4951	5.8	52 38.446	86.8	+2.9910+.0544	+0.058	-.0010 0	.18	.94	.28
3128	Br 1616	7.2	53 6.368	75.1	+3.0755-.0006	+0.010	+0.0003 0	.10	.34	.16
3129	L 4959	5.7	53 11.855	86.8	+3.0126+.0436	+0.040	-.0015 0	.15	.78	.24
3130	L 4963	5.7	53 44.879	88.0	+2.9992+.0593	+0.066	+0.0009 0	.18	.94	.28
3131	L 4961	6.6	53 48.242	79.8	+3.0526+.0155	+0.013	-.0026 0	.11	.58	.21
3132	Pi 207	6.7	53 56.394	78.8	+3.0685+.0010	+0.010	-.0045 0	.08	.40	.15
3133	L 4966	6.3	54 6.146	84.3	+3.0271+.0375	+0.031	-.0026 0	.20	1.04	.33
3134	$\epsilon$ Chamæleontis <i>m</i>	5.1	54 39.411	82.1	+2.9171+.1243	+0.284	-.0128- 6	.09	.54	.17
3135	Br 1617	5.5	54 49.604	66.1	+3.0735-.0006	+0.010	-.0011 0	.07	.28	.14
3136	Groomb 1845	6.5	55 5.627	72.4	+3.2354-.2172	+0.725	-.0263+ 17	.07	.42	.17
3137	Pulk <sub>ss</sub> 1811	5.8	55 36.495	84.2	+3.0753+.0068	+0.010	+0.0074 0	.07	.69	.19
3138	Br 1619	5.4	55 44.280	69.4	+3.0623+.0119	+0.012	-.0014 0	.14	.52	.26
3139	$\pi$ Virginis	4.7	55 44.924	73.9	+3.0752-.0022	+0.010	-.0003 0	.04	.24	.10
3140	Pi 213	6.7	55 54.556	68.3	+3.0708+.0023	+0.010	-.0010 0	.12	.48	.23
3141	Pulk <sub>ss</sub> 1813	5.8	56 32.487	81.4	+3.0794-.0206	+0.018	-.0079+ 1	.10	.69	.22
3142	Br 1620	6.8	56 37.023	73.5	+3.0778-.0108	+0.013	-.0028 0	.08	.34	.15
3143	Br 1621	5.2	57 2.240	67.6	+3.0597-.0265	+0.023	-.0291+ 3	.08	.30	.15
3144	L 4991	6.0	57 18.87	78.4	+2.839+.296		-.051- 58	.06	.66	.22
3145	Pi 218	7.0	57 24.738	79.7	+3.0542-.0264	+0.023	-.0325+ 3	.09	.57	.20
3146	$\theta$ Crucis	4.4	57 55.866	80.8	+3.0277+.0581	+0.063	-.0212- 4	.12	.68	.23
3147	Pi 221	7.4	58 28.470	76.7	+3.0664+.0043	+0.010	-.0052 0	.15	.80	.30
3148	L 4992	5.4	58 28.741	88.9	+3.0930+.0289	+0.021	+0.0286+ 2	.15	.78	.22
3149	Pi 222	6.7	58 38.199	69.1	+3.0635-.0014	+0.010	-.0097 0	.10	.40	.20
3150	Br 1622 <sup>2</sup>	6.2	11 59 9.422	74.2	+3.0773-.0103	+0.012	+0.0030 0	.10	.33	.15

3111  $8^m 1'' 5$   $170^\circ$ .3115  $h 4478$ .  $5^m 1-5^m 5$   $1'' 7$   $350^\circ$ , slow binary.3120  $\Sigma 1579$ .  $9^m 4'' 38^\circ$ ; see also No. 3122.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$	Remarks.
	" " "		" "	"	"	" " "	
3101	+15 7 51.62	65.2	-20.121-.022	+.17	-.123 0	.02 .11 .05	
3102	+35 29 14.16	78.8	-20.013-.022	+.18	-.012 0	.11 .40 .17	
3103	-63 13 57.42	81.9	-20.017-.020	+.14	-.014 0	.15 .63 .23	69 G Centauri <i>j</i>
3104	-69 40 10.65	80.6	-20.006-.018	+.13	-.001 0	.15 .61 .23	17 G Muscæ
3105	+ 2 19 41.51	68.0	-20.286-.021	+.17	-.279 0	.03 .12 .06	
3106	-62 5 35.82	78.8	-20.025-.018	+.14	-.018 0	.13 .59 .23	70 G Centauri
3107	-26 43 19.19	80.2	-19.993-.019	+.16	+.014 0	.14 .89 .30	299 G Hydræ
3108	- 4 46 38.38	70.4	-20.021-.019	+.17	-.012 0	.07 .48 .20	
3109	-44 37 1.14	81.1	-20.010-.018	+.16	.000 0	.12 .60 .21	41 G Centauri <i>B</i>
3110	-30 16 14.22	82.4	-20.322-.017	+.16	-.309 0	.13 .82 .26	300 G Hydræ
3111	-64 38 58.05	80.9	-20.029-.016	+.14	-.015 0	.14 .63 .23	18 G Muscæ*
3112	+38 26 9.93	72.8	-25.817-.045	+.25	-5.801-26		See Appendix
3113	-56 25 56.78	80.6	-20.003-.015	+.15	+.013 0	.14 .61 .23	74 G Centauri
3114	+15 59 39.67	70.2	-20.082-.016	+.17	-.064 0	.10 .31 .16	W. H. 10 <sup>m</sup> 39" 14°
3115	-33 21 6.30	68.8	-20.025-.015	+.16	-.006 0	.09 .37 .18	*
3116	-34 30 34.24	71.1	-20.057-.014	+.16	-.036 0	.15 .63 .29	302 G Hydræ
3117	+54 15 2.72	63.9	-20.019-.015	+.19	+.003 0	.02 .11 .06	
3118	- 3 13 9.66	73.4	-20.082-.013	+.17	-.059 0	.12 .60 .25	
3119	-25 9 34.49	76.4	-19.959-.012	+.16	+.067 0	.11 .50 .20	303 G Hydræ
3120	+47 1 58.90	55.8	-20.034-.012	+.18	-.007 0	.09 .37 .22	65 Ursæ Maj*
3121	+ 8 59 59.55	74.0	-20.024-.011	+.17	+.004 0	.10 .32 .15	6 Virginis <i>A</i> <sup>2</sup>
3122	+47 1 33.09	61.2	-20.047-.011	+.18	-.019 0	.12 .46 .25	
3123	+16 12 11.49	63.5	-20.037-.010	+.17	-.007 0	.11 .51 .26	95 Leonis <i>o</i>
3124	-27 55 11.14	83.3	-20.062-.010	+.17	-.032 0	.12 .50 .18	304 G Hydræ
3125	+57 9 18.89	52.4	-20.027-.010	+.18	+.003 0	.12 .36 .24	66 Ursæ Maj
3126	-16 35 38.88	74.7	-20.050-.009	+.17	-.019 0	.08 .36 .15	
3127	-61 53 30.45	84.5	-20.054-.006	+.15	-.018 0	.15 .75 .24	1 G Crucis
3128	+ 4 2 19.88	74.7	-20.046-.005	+.17	-.008 0	.10 .32 .15	
3129	-55 45 38.45	81.6	-20.064-.005	+.16	-.026 0	.11 .52 .18	2 G Crucis
3130	-63 46 57.83	87.1	-20.031-.004	+.16	+.008 0	.15 .84 .24	3 G Crucis
3131	-25 21 6.01	78.5	-20.079-.004	+.17	-.040 0	.11 .58 .21	308 G Hydræ
3132	+ 1 5 11.46	75.6	-20.022-.003	+.17	+.018 0	.07 .32 .13	
3133	-51 8 23.57	76.6	-20.055-.003	+.16	-.015 0	.14 .65 .26	85 G Centauri
3134	-77 39 53.86	78.3	-20.058-.001	+.14	-.017 0	.08 .42 .16	h 4486. 5 <sup>m</sup> 6-7 <sup>m</sup> 5 2" 186°
3135	+ 4 12 43.37	63.4	-20.060-.002	+.17	-.018 0	.06 .28 .14	7 Virginis <i>b</i>
3136	+81 24 39.57	68.8	-20.076-.001	+.20	-.034 0	.07 .36 .16	
3137	- 9 52 34.15	80.8	-20.522 .000	+.17	-.479 0	.07 .67 .21	
3138	-19 6 8.59	67.2	-20.039 .000	+.17	+.004 0	.12 .40 .21	31 Crateris
3139	+ 7 10 18.80	70.9	-20.076 .000	+.17	-.033 0	.04 .19 .09	
3140	- 1 12 33.74	71.3	-20.120 .000	+.17	-.076 0	.10 .43 .19	
3141	+36 36 3.37	80.4	-20.142+.002	+.17	-.097 0	.10 .55 .19	
3142	+22 39 4.78	70.9	-20.064+.002	+.17	-.019 0	.06 .30 .13	1 Comæ Ber
3143	+43 36 1.15	62.4	-19.982+.003	+.17	+.063 0	.06 .26 .14	67 Ursæ Maj
3144	-85 4 29.70	78.2	-20.047+.004		-.001 0	.06 .55 .18	12 G Octantis*
3145	+43 39 17.83	75.3	-20.566+.004	+.17	-.520 0	.08 .43 .17	
3146	-62 45 22.36	78.7	-20.054+.004	+.17	-.008 0	.09 .52 .19	6 G Crucis $\theta^1$
3147	- 4 55 21.02	74.0	-20.068+.006	+.17	-.022 0	.12 .56 .24	
3148	-41 52 26.83	83.7	-20.171+.006	+.17	-.125 0	.12 .56 .19	88 G Centauri
3149	+ 6 7 0.21	66.8	-20.137+.006	+.17	-.091 0	.08 .34 .17	
3150	+22 0 57.85	66.4	-20.059+.007	+.17	-.012 0	.09 .27 .15	2 Comæ Ber*

3144 h 4490. 9<sup>m</sup> 25" 146°.3150  $\Sigma$  1596. 7<sup>m</sup>5 4" 238°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
3151	L 4999	5.0	11	59	10.175	83.7	+3.0622+.0591	+ .063	— .0008 0	.16	.82	.27
3152	L 5000	5.5		59	29.268	86.8	+3.0583+.0742	+ .096	— .0067— 2	.18	.87	.27
3153	$\kappa$ Chamæleontis	5.2		59	36.084	87.2	+3.0409+.1188	+ .241	— .0221— 9	.15	.78	.23
3154	Groomb 1850	6.5	11	59	42.78	70.2	+3.038— .431		— .059+.85	.07	.39	.17
3155	$\circ$ Virginis	4.3	12	0	6.933	79.2	+3.0575— .0030	+ .010	— .0147 0	.03	.16	.06
3156	Groomb 1852	6.1		0	10.326	83.1	+3.1121— .1359	+ .306	+ .0443— 20	.05	.50	.14
3157	Groomb 1853	6.4		0	36.748	81.4	+3.0586— .0574	+ .068	— .0066+ 1	.08	.45	.15
3158	Pi 230	6.9		0	52.546	84.2	+3.0698+.0032	+ .010	— .0028 0	.07	.50	.15
3159	L 5021	7.0	1	28.938		90.8	+3.0743+.0247	+ .018	— .0046 0	.13	.69	.19
3160	$\eta$ Crucis	4.2	1	39.624		73.0	+3.0923+.0641	+ .070	.0000 0	.13	.51	.23
3161	L 5028	5.2	2	33.560		86.3	+3.1041+.1142	+ .203	— .0232— 8	.14	.88	.25
3162	L 5029	4.8	2	54.424		81.4	+3.0894+.0381	+ .030	— .0031 0	.16	.68	.25
3163	L 5031	5.7	3	3.935		86.1	+3.0894+.0357	+ .028	— .0029 0	.16	.87	.27
3164	L 5034	7.1	3	10.310		85.3	+3.0794+.0224	+ .017	— .0055 0	.12	.66	.20
3165	$\delta$ Centauri	2.7	3	10.473		73.8	+3.0904+.0382	+ .030	— .0041 0	.09	.36	.16
3166	$\alpha$ Corvi	4.2	3	15.238		72.6	+3.0867+.0156	+ .013	+ .0058 0	.07	.27	.12
3167	L 5036	6.1	3	43.333		89.0	+3.0872+.0310	+ .023	— .0059 0	.15	1.05	.27
3168	L 5037	5.9	3	44.192		90.2	+3.0890+.0280	+ .020	— .0021 0	.20	1.05	.28
3169	Br 1625	6.3	4	33.854		66.6	+3.0742+.0008	+ .010	+ .0030 0	.06	.28	.14
3170	L 5043	6.3	4	52.591		83.9	+3.0874+.0226	+ .017	— .0042 0	.14	.84	.26
3171	Br 1627	5.9	4	57.582		66.9	+3.0580— .0012	+ .010	— .0111 0	.11	.46	.23
3172	$\epsilon$ Corvi	3.1	4	58.849		74.2	+3.0794+.0143	+ .012	— .0047 0	.04	.24	.09
3173	Br 1628	6.5	5	25.859		80.1	+3.0617— .0071	+ .011	— .0007 0	.10	.48	.17
3174	Br 1629	5.6	5	54.834		78.7	+3.0822+.0150	+ .012	— .0048 0	.10	.48	.18
3175	Brisb 3951	7.0	6	14.986		89.0	+3.1199+.0316	+ .023	+ .0127+ 1	.16	.98	.26
3176	$\rho$ Centauri	4.2	6	25.421		80.9	+3.1152+.0412	+ .034	— .0047— 1	.11	.54	.20
3177	Groomb 1858	6.4	6	30.421		72.4	+2.7836— .1762	+ .652	— .0094+ 6	.07	.36	.15
3178	Pi 6	7.2	6	33.316		74.8	+3.0690— .0002	+ .010	— .0003 0	.14	.64	.26
3179	Br 1631	6.7	6	45.879		66.0	+3.0114— .0429	+ .045	+ .0012 0	.09	.33	.17
3180	Br 1630	6.0	6	46.779		74.9	+3.0490— .0123	+ .013	— .0037 0	.11	.42	.18
3181	Br 1632	5.9	7	4.207		64.5	+3.0556— .0091	+ .012	— .0008 0	.12	.48	.25
3182	Br 1634	5.2	7	31.095		71.0	+2.8662— .1210	+ .296	+ .0032— 2	.03	.18	.08
3183	Br 1635	6.0	8	20.423		63.5	+3.0569— .0033	+ .010	— .0061 0	.11	.40	.22
3184	L 5069	5.3	8	48.942		86.4	+3.1192+.0333	+ .024	— .0048 0	.16	.82	.26
3185	Brisb 3962	6.9	9	31.46		87.2	+4.486+1.534		— .072— 186	.11	.90	.24
3186	Br 1636	6.5	9	46.060		66.8	+2.9929— .0365	+ .036	— .0011 0	.12	.57	.27
3187	$\delta$ Crucis	2.9	9	49.980		73.2	+3.1593+.0532	+ .049	— .0055— 1	.10	.40	.18
3188	Brisb 3977	6.8	9	55.239		85.8	+3.1015+.0190	+ .014	— .0025 0	.12	.72	.21
3189	Groomb 1863	6.1	10	22.577		75.1	+2.8921— .0729	+ .116	— .0070+ 2	.11	.63	.25
3190	$\delta$ Ursæ Maj	3.3	10	28.743		71.0	+2.9899— .0420	+ .044	+ .0137— 2	.03	.16	.07
3191	$\gamma$ Corvi	2.6	10	39.749		75.0	+3.0801+.0116	+ .011	— .0112 0	.04	.22	.09
3192	Br 1639	5.3	10	55.554		74.0	+3.0497— .0056	+ .010	— .0050 0	.10	.44	.19
3193	Br 1640	6.1	11	6.963		81.6	+3.0175— .0227	+ .020	+ .0019 0	.06	.40	.13
3194	Br 1641	5.2	11	17.011		76.8	+3.0408— .0108	+ .013	— .0016 0	.09	.45	.18
3195	Pi 29	5.2	11	28.596		69.4	+3.0242— .0167	+ .015	— .0036 0	.14	.72	.32
3196	Br 1642	7.2	11	52.158		65.5	+2.6618— .1305	+ .399	+ .0111— 7	.10	.40	.20
3197	$\epsilon$ Muscæ	4.1	12	9.911		85.2	+3.2022+.0802	+ .102	— .0405— 9	.14	.75	.23
3198	Pulk <sub>ss</sub> 1842	5.9	12	28.370		85.9	+3.0277— .0138	+ .014	— .0035 0	.11	.57	.18
3199	$\beta$ Chamæleontis	4.3	12	28.434		69.0	+3.4218+.1865	+ .460	— .0163— 8	.05	.32	.14
3200	$\zeta$ Crucis	4.2	12	13	0.972	84.3	+3.2172+.0678	+ .073	— .0069— 1	.18	.84	.28

3170 Jacob.  $9^m 2' 5'' 20''$ .3184 Rüm.  $7^m 3'' 242''$ , slow binary.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3151	-62 36 32.01	78.7	-20.045+.007	+17	+0.002 0	.13	.60	.23	7 G Crucis $\theta^2$
3152	-67 46 18.98	80.3	-20.073+.008	+17	-.026 0	.14	.60	.23	25 G Muscæ
3153	-75 57 48.51	86.6	-20.004+.008	+17	+.043 0	.11	.60	.18	
3154	+86 8 28.70	77.2	-19.959+.008		+.088 0	.06	.38	.14	
3155	+9 17 18.01	75.5	-20.009+.009	+17	+.038 0	.03	.16	.06	
3156	+77 27 54.03	79.7	-20.136+.009	+17	-.089 0	.06	.40	.14	
3157	+63 29 30.40	77.4	-20.122+.010	+17	-.075 0	.06	.34	.13	
3158	-2 34 27.80	80.5	-20.070+.010	+17	-.023 0	.08	.49	.17	
3159	-37 18 12.02	89.2	-20.048+.011	+17	-.002 0	.15	.77	.22	91 G Centauri
3160	-64 3 21.38	76.2	-20.092+.012	+17	-.046 0	.12	.50	.21	
3161	-74 48 39.00	82.8	-20.035+.014	+17	+.011 0	.11	.63	.20	29 G Muscæ
3162	-50 6 15.25	79.8	-20.050+.014	+17	-.005 0	.13	.59	.22	92 G Centauri
3163	-48 8 8.41	82.4	-20.079+.015	+17	-.034 0	.14	.65	.23	93 G Centauri <i>E</i>
3164	-34 7 5.97	76.1	-20.052+.015	+17	-.007 0	.12	.56	.22	44 G Hydræ
3165	-50 9 55.66	72.9	-20.062+.015	+17	-.017 0	.08	.33	.14	
3166	-24 10 16.04	72.4	-20.094+.015	+17	-.049 0	.08	.29	.13	
3167	-43 46 5.64	81.3	-20.111+.016	+17	-.067 0	.11	.57	.20	95 G Centauri
3168	-40 40 29.04	86.0	-20.061+.016	+17	-.017 0	.15	.75	.23	96 G Centauri
3169	+2 27 33.70	69.3	-20.227+.018	+17	-.184 0	.05	.27	.12	10 Virginis
3170	-34 8 52.77	70.3	-20.070+.018	+17	-.028 0	.14	.61	.28	315 G Hydræ *
3171	+6 21 46.65	65.0	-20.025+.018	+17	+.017 0	.10	.43	.22	11 Virginis
3172	-22 3 48.97	74.1	-20.035+.018	+17	+.007 0	.04	.24	.10	
3173	+17 21 56.39	74.9	-20.050+.019	+17	-.009 0	.09	.36	.16	3 Comæ Ber
3174	-23 2 43.41	78.4	-20.059+.020	+17	-.019 0	.10	.42	.17	3 Corvi
3175	-43 43 31.59	84.9	-20.104+.021	+18	-.065 0	.12	.67	.21	99 G Centauri
3176	-51 48 41.98	79.9	-20.061+.021	+18	-.022 0	.10	.49	.18	
3177	+82 15 58.34	76.7	-20.040+.020	+13	-.001 0	.10	.55	.21	
3178	+4 36 43.17	70.3	-20.043+.021	+17	-.004 0	.12	.51	.24	
3179	+57 36 40.09	66.4	-20.055+.021	+16	-.017 0	.09	.26	.14	68 Ursæ Maj
3180	+26 25 38.46	71.0	-20.076+.022	+17	-.038 0	.08	.35	.16	4 Comæ Ber
3181	+21 5 55.48	73.0	-20.068+.022	+17	-.031 0	.10	.40	.18	5 Comæ Ber
3182	+78 10 18.82	76.8	-20.018+.022	+14	+.018 0	.03	.19	.07	4 H Draconis
3183	+10 49 6.68	59.0	-20.067+.025	+17	-.033 0	.10	.40	.23	12 Virginis
3184	-45 10 4.70	77.8	-20.047+.026	+18	-.015 0	.13	.53	.22	103 G Centauri <i>D</i> *
3185	-87 51 33.64	84.9	-20.030+.035		.000 0	.11	.73	.21	13 G Octantis
3186	+53 59 27.72	59.1	-20.050+.027	+16	-.021 0	.10	.34	.20	1 Canum Ven
3187	-58 11 33.57	74.0	-20.047+.028	+18	-.019 0	.08	.37	.16	
3188	-28 40 50.16	84.6	-20.069+.028	+17	-.041 0	.13	.94	.27	318 G Hydræ
3189	+70 45 23.93	68.0	-20.049+.028	+14	-.023 0	.08	.42	.20	
3190	+57 35 17.61	66.7	-20.023+.029	+15	+.003 0	.03	.14	.07	
3191	-16 59 12.30	69.7	-20.014+.029	+17	+.011 0	.05	.22	.10	
3192	+15 27 20.63	72.4	-20.057+.030	+16	-.033 0	.08	.31	.14	6 Comæ Ber
3193	+41 13 0.38	74.4	-20.069+.030	+16	-.046 0	.06	.27	.11	2 Canum Ven *
3194	+24 30 4.46	70.3	-20.041+.030	+16	-.018 0	.07	.32	.14	7 Comæ Ber
3195	+33 37 13.37	65.6	-20.138+.031	+16	-.116 0	.11	.61	.29	
3196	+80 40 52.03	53.8	-20.014+.029	+11	+.006 0	.11	.44	.27	$\Sigma$ 1625. $9^M$ $14''$ $219^\circ$
3197	-67 24 15.88	82.2	-20.063+.033	+19	-.044 0	.11	.57	.19	
3198	+29 29 30.19	80.6	-19.987+.033	+16	+.030 0	.10	.47	.17	$O \Sigma$ 245. $10^M$ $8''$ $279^\circ$
3199	-78 45 25.02	71.5	-20.005+.036	+23	+.012 0	.05	.30	.13	
3200	-63 26 49.94	78.6	-20.033+.035	+20	-.019 0	.13	.59	.23	



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s	s	s			"	"	"
3201	Pi 33	6.8	12	13	1.716	74.9	+3.0761+.0044	+0.010	— .0007	0	.14	.64	.27
3202	Br 1643	6.1	13	32.658		65.7	+3.0743+.0028	+0.009	+ .0016	0	.08	.34	.17
3203	L 5092	5.0	13	39.742		85.0	+3.1749+.0473	+0.040	— .0094—	1	.18	.78	.27
3204	Br 1656	6.5	13	55.74		59.8	+1.794— .092		+ .266—	491	.08	.27	.16
3205	Br 1644	7.2	14	11.372		73.3	+3.0853+.0071	+0.010	+ .0008	0	.09	.46	.20
3206	Br 1645	6.4	14	16.127		64.5	+3.0338— .0100	+0.012	— .0022	0	.14	.51	.27
3207	Br 1650	5.5	14	20.913		73.2	+2.7370— .0887	+0.184	— .0069+ 3		.07	.32	.14
3208	Br 1672	6.5	14	23.17		73.8	+0.248+ .818		— .074+209		.04	.18	.08
3209	Br 1646	6.7	14	29.084		72.4	+3.0110— .0130	+0.014	— .0151+ 1		.09	.39	.17
3210	$\eta$ Virginis	4.0	14	47.372		73.0	+3.0684+.0028	+0.009	— .0041	0	.03	.16	.07
3211	Br 1651	5.7	14	53.273		64.1	+2.9708— .0299	+0.029	+ .0002	0	.14	.44	.24
3212	Groomb 1867	7.0	15	14.797		63.9	+2.9970— .0197	+0.018	— .0048	0	.16	.64	.34
3213	Br 1652	5.1	15	16.236		70.9	+3.0465+.0008	+0.010	— .0198	0	.07	.28	.13
3214	Pulk <sub>ss</sub> 1852	5.9	15	18.089		89.3	+3.0214— .0120	+0.013	— .0052	0	.13	.58	.18
3215	$\zeta$ Corvi	5.5	15	22.871		82.3	+3.1019+.0148	+0.012	— .0060	0	.14	.57	.21
3216	Br 1654	4.9	15	39.906		65.5	+3.0340— .0069	+0.011	— .0081	0	.10	.36	.19
3217	Pi 54	5.5	15	45.862		82.8	+3.0935+.0097	+0.010	— .0001	0	.08	.51	.16
3218	$\epsilon$ Crucis	3.4	15	57.647		77.3	+3.2081+.0585	+0.056	— .0243—	4	.13	.48	.20
3219	Br 1655	5.9	16	0.241		64.8	+2.9262— .0410	+0.044	+ .0055—	1	.12	.48	.25
3220	L 5112	5.3	16	33.766		84.4	+3.2984+.0831	+0.100	— .0009	0	.16	.87	.28
3221	L 5113	6.0	16	36.736		90.1	+3.3087+.0868	+0.108	— .0002	0	.20	1.05	.28
3222	L 5120	5.7	17	24.232		80.8	+3.2228+.0534	+0.047	— .0064—	1	.18	1.02	.35
3223	Br 1657	6.7	17	26.931		63.9	+3.0505— .0002	+0.010	— .0114	0	.09	.32	.17
3224	Br 1658	4.9	17	28.773		73.1	+3.0212— .0114	+0.013	— .0006	0	.07	.34	.15
3225	L 5107	6.7	17	37.00		81.4	+4.388+ .720		— .016—	20	.14	.78	.26
3226	Br 1659	6.0	18	8.855		77.0	+3.1185+.0167	+0.013	— .0015	0	.11	.50	.20
3227	L 5129	5.5	18	19.821		85.4	+3.1438+.0246	+0.017	— .0029	0	.14	.88	.26
3228	L 5131	7.0	18	33.265		82.9	+3.1343+.0206	+0.014	+ .0001	0	.13	.66	.22
3229	Br 1660	6.2	18	51.883		63.0	+2.9619— .0229	+0.021	— .0076+ 1		.13	.42	.24
3230	Br 1662	5.2	19	10.003		73.7	+2.9298— .0317	+0.031	+ .0010	0	.10	.39	.17
3231	Br 1661	5.3	19	17.562		63.2	+3.0142— .0114	+0.013	— .0017	0	.11	.44	.23
3232	L 5142 <i>m</i>	6.0	20	5.491		89.4	+3.1499+.0246	+0.017	— .0033	0	.11	.78	.19
3233	Pi 75	6.3	20	13.289		81.6	+3.0226— .0101	+0.013	+ .0039	0	.11	.46	.17
3234	Br 1663	6.2	20	16.423		68.3	+2.8864— .0377	+0.040	— .0018	0	.11	.44	.21
3235	Br 1664	5.3	20	55.410		82.4	+2.9650— .0198	+0.019	— .0066	0	.05	.28	.09
3236	L 5147	5.2	20	57.193		75.7	+3.3022+.0688	+0.070	— .0052—	1	.16	.58	.26
3237	$\alpha^1$ Crucis	1.4	21	2.021		68.8	+3.3030+.0688	+0.070	— .0051—	1	.06	.32	.15
3238	$\alpha^2$ Crucis	1.6	21	2.673		66.6	+3.3016+.0687	+0.070	— .0066—	1	.09	.39	.19
3239	L 5150	5.1	21	7.478		82.8	+3.2164+.0430	+0.033	— .0073—	1	.20	.98	.33
3240	Br 1665	5.2	21	24.056		57.2	+3.0049— .0119	+0.014	— .0017	0	.12	.48	.28
3241	L 5154	5.8	21	35.405		85.6	+3.1508+.0228	+0.015	— .0009	0	.12	.62	.19
3242	$\gamma$ Comæ Ber	4.6	21	57.296		73.4	+2.9954— .0124	+0.014	— .0066	0	.06	.30	.12
3243	L 5157	5.5	21	58.065		94.6	+3.2784+.0579	+0.052	— .0022	0	.21	1.41	.30
3244	Br 1667	5.1	21	59.365		59.6	+3.0061— .0116	+0.013	+ .0001	0	.12	.45	.26
3245	$\sigma$ Centauri	4.1	22	37.817		86.1	+3.2238+.0415	+0.031	— .0038	0	.11	.58	.18
3246	Pi 87	6.7	22	37.856		77.2	+3.1083+.0119	+0.010	— .0020	0	.13	.68	.26
3247	Pi 91	6.3	22	43.683		83.7	+3.0763+.0053	+0.010	— .0054	0	.06	.48	.14
3248	Br 1670	6.0	22	49.780		61.6	+2.8705— .0354	+0.037	— .0028	0	.12	.44	.24
3249	L 5164	5.8	23	3.343		83.7	+3.1769+.0283	+0.019	— .0022	0	.10	.48	.16
3250	Br 1671	6.9	12	23 44.863		82.2	+3.0015— .0109	+0.013	— .0021	0	.12	.40	.16

3203 Innes. 12<sup>M</sup> 36'' 87°.  
3220 Innes. 10<sup>M</sup> 32'' 132°.

3216 Hough. 13<sup>M</sup> 9'' 42°.  
3223  $\Sigma$  1636. 9<sup>M</sup> 20'' 336°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
3201	- 3 23 38.08	66.8	-19.999+.034	+ .17	+ .015 0	.10	.40	.20	$\Sigma$ 1627. 7 <sup>m</sup> 20" 196°
3202	- 0 13 52.68	57.8	-20.030+.035	+ .17	- .018 0	.07	.28	.16	13 Virginis
3203	- 54 35 14.45	79.2	-20.056+.036	+ .18	- .045 0	.14	.58	.23	108 G Centauri *
3204	+ 86 59 29.91	58.0	-20.016+.027		- .006 + 2	.08	.34	.20	
3205	- 8 21 31.54	73.2	-20.041+.036	+ .17	- .033 0	.08	.37	.16	14 Virginis
3206	+ 23 35 24.45	64.6	-20.031+.036	+ .16	- .023 0	.10	.47	.24	8 Comæ Ber
3207	+ 75 42 56.46	69.5	-20.004+.033	+ .12	+ .004 0	.06	.24	.12	5 H Draconis
3208	+ 88 15 15.20	78.4	-19.949+.010		+ .058 - 1	.04	.18	.07	6 B Ursæ Min
3209	+ 28 42 55.84	67.2	-20.150+.036	+ .16	- .142 0	.08	.33	.16	9 Comæ Ber
3210	- 0 6 40.02	73.4	-20.030+.037	+ .17	- .025 0	.02	.14	.06	
3211	+ 49 32 20.56	62.4	-20.012+.037	+ .16	- .007 0	.12	.36	.21	3 Canum Ven
3212	+ 38 27 27.31	58.0	-20.002+.038	+ .16	.000 0	.11	.42	.24	$\Sigma$ 1632. 10 <sup>m</sup> 10" 192°
3213	+ 3 52 9.60	62.8	-20.080+.038	+ .16	- .078 0	.06	.23	.12	16 Virginis c
3214	+ 27 10 39.38	85.6	-20.121+.038	+ .16	- .119 0	.12	.51	.17	
3215	- 21 39 36.30	74.3	-20.041+.039	+ .17	- .039 0	.12	.42	.19	$\beta$ 1245. 14 <sup>m</sup> 5" 46°
3216	+ 18 20 43.22	63.1	-19.922+.039	+ .16	+ .078 0	.08	.29	.16	11 Comæ Ber *
3217	- 13 0 39.98	79.3	-19.997+.040	+ .17	+ .002 0	.09	.49	.17	
3218	- 59 50 55.10	79.1	-19.920+.041	+ .19	+ .078 0	.10	.45	.17	
3219	+ 58 25 15.79	56.8	-20.069+.038	+ .14	- .071 0	.10	.34	.21	70 Ursæ Maj
3220	- 66 58 1.63	81.1	-20.022+.043	+ .20	- .028 0	.13	.64	.23	38 G Muscæ $\xi^2$ *
3221	- 67 45 3.88	82.1	-20.061+.043	+ .20	- .067 0	.15	.64	.23	39 G Muscæ $\xi^1$
3222	- 57 7 16.21	75.2	-20.020+.044	+ .19	- .031 0	.13	.67	.27	24 G Crucis
3223	+ 5 51 41.44	59.0	-20.049+.042	+ .16	- .060 0	.08	.28	.16	17 Virginis *
3224	+ 26 24 3.75	71.2	-20.003+.042	+ .16	- .014 0	.06	.26	.12	12 Comæ Ber
3225	- 85 35 45.32	81.9	-19.994+.057		- .006 0	.12	.71	.23	14 G Octantis
3226	- 24 17 8.05	76.9	-20.002+.044	+ .17	- .018 0	.11	.50	.20	6 Corvi
3227	- 34 51 29.14	73.0	-20.008+.045	+ .18	- .025 0	.14	.65	.28	113 G Centauri $\alpha^1$
3228	- 29 46 50.15	84.9	-19.984+.046	+ .18	- .003 0	.15	.94	.28	320 G Hydræ *
3229	+ 43 5 47.77	52.8	-19.974+.044	+ .15	+ .005 0	.12	.38	.25	4 Canum Ven
3230	+ 52 6 58.28	69.1	-19.970+.044	+ .14	+ .007 0	.09	.28	.14	5 Canum Ven
3231	+ 26 39 10.92	58.4	-19.999+.046	+ .16	- .023 0	.10	.41	.23	13 Comæ Ber
3232	- 34 37 55.59	80.8	-19.983+.049	+ .18	- .013 0	.12	.53	.20	118 G Centauri $\alpha^2$ *
3233	+ 24 28 52.54	76.7	-20.017+.047	+ .16	- .048 0	.08	.40	.16	
3234	+ 57 19 55.76	63.2	-19.992+.046	+ .14	- .024 0	.11	.38	.21	71 Ursæ Maj
3235	+ 39 34 24.14	74.8	-20.002+.048	+ .15	- .039 0	.06	.29	.12	6 Canum Ven
3236	- 62 34 4.69	81.2	-20.003+.052	+ .21	- .040 0	.14	.61	.22	25 G Crucis
3237	- 62 32 41.63	73.6	-19.993+.052	+ .21	- .031 0	.06	.37	.15	} See also L 5147 prec *
3238	- 62 32 43.76	68.3	-19.978+.052	+ .21	- .016 0	.08	.39	.18	
3239	- 50 53 47.67	76.4	-19.999+.051	+ .19	- .037 0	.14	.65	.26	119 G Centauri *
3240	+ 27 49 19.69	58.2	-19.978+.049	+ .16	- .018 0	.09	.39	.22	14 Comæ Ber
3241	- 32 16 32.04	82.4	-19.997+.052	+ .18	- .039 0	.11	.52	.18	323 G Hydræ
3242	+ 28 49 27.29	72.1	-20.042+.050	+ .16	- .087 0	.05	.24	.10	25 Comæ Ber
3243	- 58 26 17.91	91.5	-19.957+.054	+ .20	- .002 0	.17	1.08	.26	19 G Crucis
3244	+ 27 22 46.24	57.6	-19.968+.050	+ .16	- .013 0	.10	.42	.24	16 Comæ Ber
3245	- 49 40 36.53	83.1	-19.977+.055	+ .19	- .028 0	.09	.44	.15	
3246	- 16 4 42.81	77.3	-19.948+.053	+ .17	+ .001 0	.12	.54	.21	
3247	- 4 3 43.28	80.7	-19.957+.053	+ .17	- .009 0	.06	.44	.14	
3248	+ 56 15 58.76	52.3	-19.967+.050	+ .14	- .020 0	.11	.32	.22	73 Ursæ Maj
3249	- 38 29 14.64	75.4	-19.961+.055	+ .18	- .016 0	.11	.42	.18	122 G Centauri $\mu$
3250	+ 26 27 10.41	78.6	-19.973+.054	+ .16	- .033 0	.10	.42	.17	

3228 See. 14<sup>m</sup> 18" 98°.3237-3238 1<sup>m</sup> 4-1<sup>m</sup> 6 5" 116°.3232 See. 6<sup>m</sup> 5-5<sup>m</sup> 7 0" 2 41°.3239 13<sup>m</sup> 24" 286°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m	s						$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
3251	Br 1673	5.4	12	23	55.124	58.6	+3.0016-	.0109	+ .013	- .0014	0	.12	.48	.28
3252	Pi 98	7.5	24	1.840		76.2	+3.0737+	.0042	+ .009	- .0032	0	.16	.72	.29
3253	Brisb 4073	5.9	24	23.172		89.2	+3.2784+	.0530	+ .044	- .0042-	1	.18	1.08	.29
3254	Br 1674	5.7	24	26.936		80.2	+3.0052-	.0098	+ .013	- .0018	0	.09	.36	.14
3255	L 5173	6.0	24	36.497		85.9	+3.1988+	.0313	+ .021	+ .0012	0	.16	.92	.28
3256	$\delta$ Corvi	3.0	24	41.351		74.9	+3.0990+	.0119	+ .010	- .0144	0	.03	.20	.08
3257	Br 1676	5.9	24	41.852		85.9	+3.0186-	.0080	+ .012	+ .0027	0	.05	.36	.10
3258	Pi 104	6.7	24	55.432		74.2	+3.0885+	.0101	+ .010	- .0169	0	.14	.54	.24
3259	Pi 105	6.1	25	3.311		80.0	+3.1326+	.0164	+ .012	- .0021	0	.11	.60	.21
3260	Br 1678	5.6	25	17.200		83.2	+2.8192-	.0378	+ .042	- .0087+	1	.06	.34	.11
3261	Br 1677	6.5	25	19.189		77.9	+2.8534-	.0293	+ .029	- .0298+	4	.09	.44	.16
3262	Dpt 1428 <i>m</i>	7.7	25	28.932		76.9	+3.0489-	.0020	+ .010	+ .0034	0	.12	.39	.18
3263	$\gamma$ Crucis	1.3	25	37.020		72.6	+3.3003+	.0549	+ .046	+ .0023+	1	.10	.39	.17
3264	Pi 108	7.3	25	42.282		83.0	+3.0763+	.0051	+ .009	- .0052	0	.13	.70	.23
3265	Br 1680	5.3	25	43.846		72.4	+2.6549-	.0550	+ .086	- .0115+	3	.08	.40	.17
3266	Br 1679	5.6	26	0.993		73.1	+3.0006-	.0099	+ .012	- .0008	0	.10	.44	.19
3267	Groomb 1903	6.4	26	4.836		77.3	+2.8681-	.0315	+ .033	+ .0018-	1	.10	.54	.20
3268	L 5185	5.5	26	5.007		88.4	+3.3198+	.0603	+ .054	- .0039	0	.20	.92	.28
3269	$\gamma$ Muscæ	4.0	26	29.490		81.4	+3.5260+	.1188	+ .174	- .0092-	3	.12	.62	.21
3270	Pi 111	6.6	26	30.169		77.8	+3.0819+	.0057	+ .010	- .0026	0	.09	.50	.18
3271	L 5192	7.6	26	53.638		86.1	+3.1505+	.0192	+ .013	- .0016	0	.15	1.08	.30
3272	$\eta$ Corvi	4.4	26	54.896		66.4	+3.0857+	.0118	+ .010	- .0305-	1	.08	.32	.16
3273	Pulk <sub>ss</sub> 1884	5.9	27	25.461		90.1	+3.1006+	.0105	+ .010	- .0095	0	.12	.62	.17
3274	Br 1682	6.7	27	59.191		79.3	+3.0369-	.0021	+ .010	- .0043	0	.11	.36	.16
3275	Pulk <sub>ss</sub> 1886	5.9	28	23.028		90.3	+3.1065+	.0100	+ .010	- .0018	0	.13	.63	.18
3276	Br 1684	6.4	28	35.201		80.2	+2.9938-	.0095	+ .013	- .0016	0	.11	.38	.16
3277	Br 1683	5.6	28	37.022		68.8	+3.0927+	.0082	+ .010	- .0057	0	.07	.36	.16
3278	Pi 122	5.7	28	43.413		82.6	+2.9616-	.0149	+ .015	+ .0011	0	.11	.48	.17
3279	$\beta$ Canum Ven	4.4	28	59.705		79.4	+2.8581-	.0194	+ .021	- .0629+	5	.04	.21	.08
3280	$\beta$ Corvi	2.8	29	7.987		70.2	+3.1437+	.0165	+ .012	.0000	0	.03	.18	.08
3281	$\kappa$ Draconis	3.8	29	13.000		71.5	+2.5849-	.0529	+ .085	- .0119+	3	.03	.18	.08
3282	L 5207	6.0	29	17.601		87.3	+3.2299+	.0352	+ .024	- .0076	0	.20	.84	.27
3283	Pi 130	4.9	29	52.122		79.5	+2.9928-	.0085	+ .012	- .0052	0	.07	.39	.14
3284	Br 1687	6.8	30	5.397		77.6	+3.0115-	.0062	+ .011	- .0008	0	.13	.69	.26
3285	Br 1688	5.3	30	6.857		86.4	+3.0127-	.0062	+ .011	+ .0003	0	.05	.34	.09
3286	L 5211	5.4	30	22.572		86.6	+3.2129+	.0311	+ .020	- .0101-	1	.18	1.05	.30
3287	Br 1691	5.3	30	30.212		74.2	+2.5629-	.0523	+ .085	- .0066+	2	.11	.39	.18
3288	Groomb 1909	7.4	31	7.077		74.8	+1.9197-	.0415	+ .150	- .0355+	21	.08	.44	.17
3289	$\alpha$ Muscæ	2.7	31	13.052		80.8	+3.5285+	.1013	+ .127	- .0065-	2	.12	.57	.21
3290	Br 1690	6.1	31	38.273		77.1	+3.0873+	.0064	+ .009	- .0020	0	.06	.32	.12
3291	Br 1692	6.0	31	57.484		69.8	+3.0104-	.0054	+ .011	- .0029	0	.12	.48	.23
3292	$\tau$ Centauri	4.0	32	13.903		85.4	+3.2606+	.0404	+ .029	- .0197-	2	.10	.56	.17
3293	Pi 140	5.7	32	24.024		83.6	+3.1719+	.0194	+ .013	+ .0053	0	.08	.57	.17
3294	Pi 142	6.0	33	16.344		72.2	+3.0585+	.0025	+ .009	- .0057	0	.10	.50	.21
3295	Pi 143	7.1	33	34.778		73.3	+3.0820+	.0057	+ .009	- .0034	0	.11	.48	.21
3296	L 5229	6.2	33	44.100		83.7	+3.1818+	.0219	+ .014	- .0031	0	.12	.66	.21
3297	Br 1696	6.5	33	57.609		74.2	+2.8963-	.0192	+ .019	- .0019	0	.08	.30	.15
3298	$\chi$ Virginis	4.8	34	5.057		75.0	+3.0931+	.0077	+ .009	- .0051	0	.05	.27	.11
3299	Br 1695	5.7	34	8.857		71.8	+2.9884-	.0073	+ .011	- .0053	0	.09	.48	.21
3300	L 5231	4.8	12	34	27.666	86.2	+3.2330+	.0306	+ .020	- .0040	0	.13	.70	.21

3256 W. H. 8<sup>m</sup> 24" 214°, rel. fixed.3262  $\Sigma$  1647. 8<sup>m</sup> 3-8<sup>m</sup> 6 1" 3 223°, slow binary.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3251	+26 27 58.96	60.8	-19.960+.054	+16	-.022 0	.11	.47	.26	17 Comæ Ber
3252	- 1 52 35.03	74.7	-19.946+.055	+17	-.009 0	.14	.55	.24	
3253	-55 58 20.67	86.5	-19.932+.059	+20	+.001 0	.15	.79	.24	33 G Crucis L (5175)
3254	+24 39 42.46	74.2	-19.941+.055	+16	-.008 0	.08	.28	.13	18 Comæ Ber
3255	-41 10 56.74	83.3	-19.956+.058	+19	-.025 0	.13	.71	.23	123 G Centauri
3256	-15 57 31.46	76.2	-20.074+.057	+17	-.143 0	.04	.21	.08	Or 8 <sup>o</sup> *
3257	+21 26 59.07	82.0	-19.976+.056	+16	-.046 0	.06	.33	.11	20 Comæ Ber
3258	-12 50 21.02	77.0	-19.975+.057	+17	-.047 0	.12	.51	.21	$\beta$ 28, 10 <sup>M</sup> 2'' 9 <sup>o</sup> , slow binary
3259	-23 8 37.26	81.1	-19.936+.058	+17	-.009 0	.12	.61	.21	30 G Corvi
3260	+58 57 21.19	73.7	-19.843+.054	+13	+.082 0	.07	.25	.11	74 Ursæ Maj
3261	+52 5 15.02	73.1	-19.910+.054	+13	+.015 0	.08	.30	.14	7 Canum Ven
3262	+10 16 11.70	70.2	-19.979+.058	+16	-.056 0	.10	.33	.16	*
3263	-56 33 11.80	72.8	-20.194+.062	+21	-.272 0	.08	.34	.15	
3264	- 3 30 30.22	79.4	-19.922+.058	+17	-.001 0	.11	.53	.20	
3265	+69 45 18.66	68.9	-19.980+.052	+11	-.059 0	.06	.29	.13	4 Draconis
3266	+25 7 11.38	72.4	-19.935+.058	+15	-.017 0	.09	.36	.16	21 Comæ Ber
3267	+53 37 26.30	73.7	-19.743+.056	+13	+.174 0	.09	.43	.18	
3268	-58 52 17.16	80.2	-19.939+.063	+21	-.022 0	.14	.60	.23	35 G Crucis
3269	-71 34 50.05	80.4	-19.926+.068	+25	-.013 0	.10	.50	.18	
3270	- 4 30 3.91	78.7	-19.886+.060	+17	+.027 0	.08	.47	.17	
3271	-27 0 51.93	78.6	-19.957+.062	+18	-.048 0	.14	.84	.30	
3272	-15 38 32.03	71.6	-19.976+.061	+17	-.067 0	.08	.29	.13	
3273	-13 18 20.40	85.8	-19.970+.062	+17	-.066 0	.12	.56	.18	
3274	+10 50 50.65	74.3	-19.898+.062	+16	.000 0	.10	.34	.16	20 Virginis
3275	-12 16 48.09	86.1	-19.854+.064	+17	+.039 0	.11	.60	.18	
3276	+24 50 5.60	75.6	-19.898+.063	+16	-.007 0	.09	.34	.15	22 Comæ Ber
3277	- 8 54 1.54	68.4	-19.889+.064	+17	+.002 0	.06	.32	.15	21 Virginis q
3278	+33 48 0.37	78.8	-19.927+.062	+15	-.037 0	.11	.40	.17	
3279	+41 54 2.88	71.5	-19.606+.060	+15	+.281- 1	.04	.20	.09	8 Canum Ven
3280	-22 50 37.49	70.8	-19.946+.067	+17	-.061 0	.04	.19	.08	
3281	+70 20 21.95	66.4	-19.878+.056	+10	+.006 0	.03	.14	.07	
3282	-44 6 57.35	82.2	-20.112+.068	+19	-.229 0	.15	.63	.23	127 G Centauri
3283	+23 10 47.13	76.2	-19.871+.065	+16	+.007 0	.07	.33	.13	23 Comæ Ber
3284	+18 55 39.51	66.6	-19.858+.066	+16	+.016 0	.14	.96	.44	24 <sup>1</sup> Comæ Ber } *
3285	+18 55 38.95	79.4	-19.858+.066	+16	+.016 0	.05	.24	.09	24 <sup>2</sup> Comæ Ber }
3286	-40 28 15.65	79.0	-19.896+.070	+19	-.025 0	.13	.57	.22	128 G Centauri
3287	+70 34 22.19	66.2	-19.880+.058	+10	-.010 0	.10	.25	.15	6 Draconis
3288	+80 48 6.40	72.2	-19.869+.046	+05	-.007- 1	.09	.38	.17	
3289	-68 35 4.25	79.7	-19.882+.078	+25	-.021 0	.10	.50	.18	
3290	- 5 16 50.97	75.8	-19.883+.070	+17	-.027 0	.06	.28	.11	25 Virginis f
3291	+17 38 25.52	70.8	-19.881+.069	+15	-.029 0	.10	.43	.20	25 Comæ Ber
3292	-47 59 26.64	81.7	-19.867+.075	+20	-.018 0	.08	.39	.14	
3293	-26 35 10.17	81.0	-19.952+.074	+18	-.005 0	.08	.44	.15	328 G Hydræ
3294	+ 2 24 18.22	71.1	-19.863+.073	+16	-.027 0	.10	.47	.21	
3295	- 3 49 25.12	70.6	-19.845+.074	+17	-.013 0	.09	.35	.17	W. H. 9 <sup>M</sup> 5 53'' 107°
3296	-29 52 20.32	82.3	-19.852+.076	+19	-.022 0	.13	.75	.25	329 G Hydræ
3297	+41 25 28.81	66.7	-19.858+.071	+14	-.031 0	.08	.29	.15	9 Canum Ven
3298	- 7 26 43.10	68.4	-19.863+.075	+17	-.037 0	.05	.22	.10	
3299	+21 36 44.67	71.9	-19.845+.073	+15	-.020 0	.09	.42	.18	26 Comæ Ber
3300	-39 26 13.51	76.8	-19.864+.079	+19	-.043 0	.11	.45	.19	132 G Centauri l

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>"</sup>	<sup>"</sup>	<sup>"</sup>	
3301	L 5242	6.0	12 35 53.224	88.0	+ 3.2777+.0379	+ .025	— .0074— 1	.16	.87	.25
3302	$\gamma$ Centauri <i>m</i>	2.1	35 59.993	73.4	+ 3.2878+.0416	+ .030	— .0201— 2	.09	.38	.16
3303	Lal 23675	6.2	36 4.310	85.2	+ 3.1106+.0105	+ .010	— .0080 0	.12	.51	.17
3304	Lal 23676	6.1	36 4.677	89.7	+ 3.1099+.0105	+ .010	— .0088 0	.13	.60	.18
3305	L 5241	5.0	36 11.218	84.4	+ 3.4212+.0642	+ .056	— .0028 0	.18	.78	.27
3306	Br 1697	6.5	36 32.040	73.7	+ 3.0235— .0016	+ .010	— .0077 0	.09	.28	.14
3307	$\gamma$ Virginis <i>c.g.</i>		36 35.561	70.8	+ 3.0381+.0043	+ .009	— .0376 0			
3308	Br 1700	7.4	36 47.315	70.7	+ 3.0985+.0076	+ .009	+ .0001 0	.09	.46	.20
3309	$\rho$ Virginis	5.0	36 49.404	74.4	+ 3.0377— .0015	+ .010	+ .0061 0	.06	.34	.14
3310	Br 1702	5.7	36 53.081	79.0	+ 3.0395+.0002	+ .009	— .0052 0	.11	.39	.16
3311	L 5250	4.6	37 3.236	82.3	+ 3.3015+.0418	+ .030	— .0120— 1	.18	1.00	.33
3312	L 5249	6.4	37 8.889	82.6	+ 3.3802+.0551	+ .044	— .0048— 1	.18	.75	.27
3313	Br 1703	6.1	37 11.882	83.2	+ 2.6398— .0379	+ .048	— .0038+ 1	.05	.33	.10
3314	L 5251	6.4	37 27.720	81.6	+ 3.3856+.0557	+ .045	— .0047— 1	.18	.72	.27
3315	L 5254	6.9	37 58.959	87.8	+ 3.2574+.0312	+ .020	+ .0026 0	.18	.90	.27
3316	L 5258	7.9	38 22.406	92.7	+ 3.1852+.0279	+ .018	— .0559— 4	.13	1.22	.25
3317	Arm 2736	6.3	38 29.857	70.7	+ 3.0796+.0045	+ .009	+ .0032 0	.11	.78	.32
3318	Pi 168	5.8	38 40.618	79.1	+ 3.1876+.0206	+ .013	— .0030 0	.10	.48	.18
3319	$\epsilon$ Crucis	4.7	39 45.068	86.2	+ 3.4926+.0700	+ .062	+ .0137+ 3	.18	.92	.28
3320	$\beta$ Muscae <i>m</i>	3.1	40 8.687	79.6	+ 3.6312+.1010	+ .118	— .0051— 1	.10	.54	.19
3321	Br 1705	6.3	40 15.582	65.0	+ 2.8470— .0168	+ .018	— .0306+ 2	.07	.30	.15
3322	Groomb 1922	5.6	40 25.950	74.5	+ 2.8301— .0214	+ .022	+ .0005 0	.08	.46	.18
3323	Br 1704	5.4	40 33.924	72.9	+ 3.0308.0000	+ .010	— .0076 0	.10	.30	.15
3324	L 5273	4.9	40 38.137	84.3	+ 3.4165+.0572	+ .045	— .0045 0	.18	.75	.26
3325	L 5235	7.1	40 59.58	77.1	+ 2.172+28.711		— .072—450	.06	.51	.18
3326	Br 1706	5.9	41 17.693	65.9	+ 3.0481— .0009	+ .010	+ .0184 0	.08	.33	.17
3327	Pi 177	5.4	41 39.047	69.7	+ 2.9983— .0044	+ .010	+ .0004 0	.12	.57	.26
3328	$\beta$ Crucis	1.1	41 52.556	72.7	+ 3.4726+.0660	+ .057	— .0062— 1	.07	.28	.13
3329	Br 1707	6.3	42 11.637	76.4	+ 3.0213— .0021	+ .010	+ .0032 0	.10	.40	.17
3330	Pi 183	6.5	42 23.282	83.6	+ 3.0970+.0072	+ .009	— .0001 0	.08	.57	.17
3331	Br 1708	6.8	42 45.883	74.0	+ 3.0542+.0022	+ .009	— .0003 0	.05	.38	.14
3332	Groomb 1926	6.1	43 2.842	78.8	+ 2.5786— .0352	+ .045	+ .0030 0	.09	.54	.19
3333	L 5285	6.0	43 6.375	81.2	+ 3.1898+.0203	+ .013	— .0101 0	.14	.92	.30
3334	Br 1709	6.7	43 13.841	81.3	+ 3.0059— .0027	+ .010	— .0035 0	.11	.40	.16
3335	L 5279	5.7	43 15.981	83.8	+ 3.8222+.1339	+ .187	+ .0028+ 1	.18	.78	.27
3336	Br 1713	5.8	43 29.274	75.8	+ 2.4697— .0382	+ .056	+ .0010 0	.09	.45	.18
3337	Br 1710	6.0	43 53.577	74.6	+ 3.0083— .0030	+ .010	+ .0025 0	.10	.34	.16
3338	Br 1712	6.4	44 5.791	63.1	+ 2.7726— .0227	+ .024	— .0056+ 1	.13	.56	.29
3339	Br 1711	6.0	44 25.148	73.6	+ 2.9278— .0098	+ .013	— .0071 0	.09	.48	.20
3340	$\epsilon$ Octantis	5.5	44 27.00	77.3	+ 5.831+ .866		+ .044+ 43	.06	.52	.18
3341	L 5294	6.0	45 14.564	82.6	+ 3.4080+.0503	+ .036	— .0028 0	.18	.70	.26
3342	L 5296	5.1	45 15.532	81.7	+ 3.2426+.0258	+ .014	— .0030 0	.10	.56	.19
3343	Groomb 1931	6.1	45 25.587	67.5	+ 2.8578— .0153	+ .016	— .0085+ 1	.13	.66	.31
3344	Pi 196	6.9	46 10.646	74.4	+ 3.1180+.0096	+ .009	— .0005 0	.11	.50	.21
3345	L 5300	6.5	46 26.444	80.8	+ 3.2880+.0315	+ .019	— .0032 0	.15	.75	.27
3346	Br 1714	6.3	46 31.448	60.4	+ 3.0532+.0026	+ .009	— .0022 0	.11	.45	.25
3347	Br 1715	5.1	46 49.701	79.0	+ 2.9264— .0096	+ .013	— .0012 0	.05	.34	.12
3348	Br 1716	6.7	47 13.874	80.3	+ 2.9848— .0042	+ .011	— .0007 0	.11	.39	.16
3349	L 5303	6.0	47 24.011	86.9	+ 3.5421+.0698	+ .060	— .0015 0	.13	.90	.25
3350	Br 1717	7.1	12 47 24.280	81.0	+ 2.9868— .0043	+ .011	+ .0018 0	.11	.40	.16

3302 h 4539.  $2^M 9-2^M 9 1''.5 \pm$  binary, of about 88 yrs.3310  $\beta$  924.  $11^M 4'' 30''$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3301	-45 35 53.88	78.6	-19.764+.083	+20	+0.38 0	.13	.55	.22	133 G Centauri
3302	-48 24 38.13	74.0	-19.815+.083	+20	-.015 0	.08	.35	.15	*
3303	-12 27 54.83	73.0	-19.797+.079	+17	+.002 0	.10	.36	.17	} $\Sigma$ 1669. 6" 305°
3304	-12 27 58.54	76.0	-19.800+.079	+17	-.001 0	.11	.38	.17	
3305	-59 8 12.73	78.6	-19.810+.087	+23	-.012 0	.14	.55	.22	39 G Crucis
3306	+10 58 29.89	70.2	-19.795+.078	+16	-.002 0	.08	.26	.13	27 Virginis
3307	-0 54 3.77	68.9	-19.788+.078	+17	+.004-1				See Appendix
3308	-6 57 1.69	68.0	-19.838+.081	+17	-.049 0	.08	.35	.16	28 Virginis
3309	+10 47 11.90	72.6	-19.890+.079	+16	-.101 0	.06	.32	.14	
3310	+7 21 20.08	76.2	-19.801+.079	+16	-.013 0	.10	.35	.16	31 Virginis $d^1$ *
3311	-48 15 49.92	77.9	-19.833+.086	+20	-.048 0	.13	.69	.26	136 G Centauri $w$
3312	-55 23 53.75	78.9	-19.817+.088	+22	-.033 0	.13	.54	.21	41 G Crucis
3313	+63 15 43.31	76.6	-19.802+.071	+11	-.019 0	.05	.23	.09	76 Ursæ Maj
3314	-55 37 39.68	77.4	-19.807+.089	+22	-.027 0	.14	.56	.23	42 G Crucis
3315	-39 37 46.29	84.5	-19.808+.087	+20	-.036 0	.15	.67	.23	137 G Centauri
3316	-37 9 16.21	88.1	-19.996+.084	+19	-.230-1	.13	.95	.25	
3317	-1 1 37.66	68.6	-19.855+.084	+16	-.090 0	.09	.69	.30	
3318	-27 46 30.59	80.2	-19.816+.086	+18	-.054 0	.10	.42	.16	330 G Hydræ
3319	-60 25 55.98	77.4	-19.825+.097	+24	-.079 0	.13	.57	.23	h 4547. 8 <sup>m</sup> 20" 37°
3320	-67 33 38.41	79.2	-19.769+.101	+27	-.029 0	.09	.45	.16	Russell. 3 <sup>m</sup> 9-4 <sup>m</sup> 2 1"3 343°
3321	+39 49 19.66	62.4	-19.608+.080	+14	+.130-1	.07	.26	.14	10 Canum Ven
3322	+45 59 12.74	72.9	-19.733+.081	+13	+.003 0	.08	.40	.17	
3323	+8 13 12.45	70.8	-19.733+.086	+16	+.001 0	.10	.29	.15	32 Virginis $d^2$
3324	-55 56 29.47	79.0	-19.772+.096	+23	-.040 0	.14	.58	.23	45 G Crucis
3325	-89 15 1.08	76.7	-19.738+.556		-.011-2	.06	.53	.19	
3326	+10 5 55.90	62.3	-20.178+.089	+16	-.456 0	.08	.31	.17	33 Virginis
3327	+17 7 25.07	67.3	-19.722+.087	+16	-.005 0	.10	.47	.22	27 Comæ Ber
3328	-59 8 31.66	73.2	-19.741+.100	+23	-.028 0	.06	.27	.12	
3329	+12 30 17.08	73.4	-19.734+.089	+16	-.026 0	.08	.34	.15	34 Virginis
3330	-5 45 16.42	81.2	-19.755+.092	+17	-.050 0	.08	.52	.17	
3331	+4 7 7.19	71.5	-19.711+.091	+16	-.012 0	.06	.30	.13	35 Virginis
3332	+63 19 36.66	74.7	-19.704+.079	+10	-.010 0	.09	.40	.17	
3333	-27 2 59.96	75.6	-19.776+.095	+18	-.083 0	.14	1.03	.38	333 G Hydræ
3334	+14 5 58.16	75.7	-19.736+.090	+16	-.045 0	.10	.34	.15	28 Comæ Ber
3335	-71 26 26.60	85.5	-19.704+.114	+31	-.013 0	.15	.75	.24	52 G Muscæ
3336	+67 20 10.45	71.6	-19.693+.076	+09	-.006 0	.07	.29	.13	7 Draconis
3337	+14 40 6.27	70.2	-19.716+.092	+16	-.036 0	.09	.30	.15	29 Comæ Ber (36 Virginis)
3338	+49 0 42.63	51.0	-19.674+.086	+12	+.003 0	.12	.37	.25	11 Canum Ven
3339	+28 5 48.66	68.4	-19.661+.090	+14	+.011 0	.08	.34	.16	30 Comæ Ber
3340	-84 34 48.87	77.9	-19.661+.173		+.010+1	.05	.46	.16	
3341	-52 14 32.66	78.6	-19.686+.106	+22	-.028 0	.14	.56	.22	142 G Centauri
3342	-33 27 14.88	81.2	-19.693+.101	+19	-.036 0	.10	.52	.18	143 G Centauri $p$
3343	+38 3 39.47	63.2	-19.640+.090	+14	+.014 0	.10	.50	.26	
3344	-9 47 38.43	69.7	-19.661+.099	+17	-.020 0	.10	.39	.19	$\Sigma$ 1682. 9 <sup>m</sup> 32" 305°
3345	-39 8 9.08	81.0	-19.675+.105	+20	-.038 0	.13	.65	.23	145 G Centauri
3346	+3 36 0.91	59.6	-19.623+.098	+16	+.012 0	.10	.37	.21	37 Virginis
3347	+28 5 5.20	76.8	-19.656+.095	+14	-.026 0	.05	.29	.11	31 Comæ Ber
3348	+17 37 4.20	77.0	-19.644+.097	+15	-.021 0	.10	.35	.15	32 Comæ Ber
3349	-59 47 6.06	86.3	-19.633+.114	+25	-.013 0	.11	.80	.22	48 G Crucis, Cluster
3350	+17 39 10.85	74.8	-19.662+.098	+15	-.042 0	.11	.36	.17	33 Comæ Ber



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m		s	s			s	$\alpha$ Ep.	100 $\mu$
3351	L 5308	4.3	12	47	27.276	83.6	+3.3718+.0437	+0.029	-.0099-1	.16	.78	.26	
3352	L 5312	4.3		47	53.791	85.4	+3.3078+.0323	+0.019	+0.0058+1	.08	.45	.14	
3353	Br 1718	6.4		48	3.879	65.5	+3.0695+.0060	+0.009	-.0175 0	.07	.34	.17	
3354	32 <sup>a</sup> H Camelopardi	6.1		48	15.64	74.9	+0.416+.207		-.015. +12	.06	.26	.11	
3355	Br 1719	5.1		48	22.343	70.9	+2.9568-.0062	+0.011	-.0036 0	.09	.45	.20	
3356	32 <sup>a</sup> H Camelopardi	5.5		48	22.16	75.2	+0.409+.208		-.018. +15	.05	.21	.09	
3357	$\lambda$ Crucis	4.9		48	42.779	91.1	+3.5302+.0665	+0.054	-.0041 0	.16	1.06	.26	
3358	$\mu^1$ Crucis	4.2		48	42.839	75.2	+3.4965+.0610	+0.048	-.0040 0	.14	.60	.25	
3359	$\mu^2$ Crucis	5.5		48	44.104	87.8	+3.4979+.0610	+0.047	-.0026 0	.18	.93	.27	
3360	Br 1720	6.5		48	48.682	79.6	+3.0113-.0019	+0.010	+0.0040 0	.10	.39	.16	
3361	Pulk <sub>ss</sub> 1941	6.2		49	6.259	91.7	+3.1184+.0104	+0.009	-.0097 0	.13	.69	.18	
3362	$\psi$ Virginis	5.0		49	9.099	73.2	+3.1158+.0093	+0.009	-.0016 0	.05	.28	.12	
3363	$\epsilon$ Ursæ Maj	1.6		49	37.896	73.9	+2.6523-.0272	+0.031	+0.0139-2	.03	.15	.06	
3364	L 5322	5.5		49	44.429	87.9	+3.3303+.0356	+0.022	-.0045 0	.16	.90	.26	
3365	L 5318	6.0		49	50.602	86.6	+3.9371+.1417	+0.197	-.0043-1	.18	.81	.26	
3366	L 5321	5.7		50	3.451	85.4	+3.5020+.0604	+0.046	-.0044 0	.18	.84	.27	
3367	$\delta$ Virginis	3.6		50	33.957	74.3	+3.0205+.0027	+0.009	-.0317 0	.03	.18	.07	
3368	L 5332	7.2		51	7.416	86.5	+3.2175+.0201	+0.011	+0.0015 0	.12	.88	.24	
3369	L 5331	5.4		51	18.742	83.4	+3.4304+.0483	+0.033	-.0039 0	.20	.99	.33	
3370	$\alpha^1$ Canum Ven	5.4		51	19.810	72.9	+2.8134-.0148	+0.017	-.0198+1	.06	.36	.15	
3371	$\alpha^2$ Canum Ven	2.9		51	21.075	68.2	+2.8132-.0148	+0.017	-.0199+1	.03	.15	.07	
3372	Br 1727	5.4		51	29.751	82.1	+2.4036-.0319	+0.045	-.0005 0	.06	.38	.12	
3373	Br 1726	6.2		51	54.733	65.8	+2.6408-.0246	+0.029	-.0086+1	.09	.33	.17	
3374	Br 1728	5.0		53	58.765	74.0	+2.9692-.0039	+0.010	-.0021 0	.09	.42	.18	
3375	Br 1729	6.0		54	30.395	72.1	+3.0885+.0065	+0.009	-.0019 0	.09	.38	.17	
3376	L 5357	6.3		55	4.057	80.2	+3.2730+.0261	+0.014	-.0056 0	.13	.75	.26	
3377	$\delta$ Muscæ	3.5		55	23.265	77.7	+4.0554+.1427	+0.183	+0.0536+15	.09	.51	.19	
3378	Br 1732	6.3		55	26.920	71.2	+3.0862+.0063	+0.009	-.0020 0	.10	.40	.18	
3379	Br 1733	5.2		55	29.371	70.6	+2.8752-.0104	+0.013	-.0021 0	.10	.42	.19	
3380	Br 1737	5.8		56	8.407	67.9	+2.2782-.0279	+0.045	-.0255+6	.09	.51	.23	
3381	Br 1734	6.3		56	12.931	78.2	+2.9686-.0036	+0.010	-.0004 0	.11	.36	.16	
3382	Br 1736	5.1		56	26.296	75.6	+2.5845-.0251	+0.029	+0.0120-2	.10	.38	.16	
3383	$\epsilon$ Virginis	2.8		57	11.949	79.3	+2.9867-.0006	+0.009	-.0185 0	.03	.18	.06	
3384	L 5370	5.0		57	45.911	79.2	+3.4503+.0463	+0.030	-.0053 0	.15	.69	.26	
3385	Pi 255	6.2		57	52.548	75.9	+2.3563-.0266	+0.037	-.0269+5	.09	.48	.19	
3386	L 5376	7.5		58	14.927	84.6	+3.2948+.0270	+0.015	-.0017 0	.12	.57	.19	
3387	Paris 16057 <i>m</i>	5.9		58	24.694	88.1	+3.2053+.0164	+0.010	+0.0100 0	.09	.86	.21	
3388	Br 1738 <i>m</i>	6.9	12	58	45.184	69.8	+3.0878+.0066	+0.009	-.0030 0	.08	.38	.17	
3389	L 5369	6.9	13	0	17.429	89.6	+4.6797+.2800	+0.582	-.0152-6	.14	.88	.23	
3390	L 5390	5.0		0	28.840	80.8	+3.4546+.0449	+0.028	-.0039 0	.16	.69	.26	
3391	L 5397	5.9		0	55.064	84.6	+3.3808+.0352	+0.020	+0.0027 0	.16	1.11	.33	
3392	Br 1739	5.3		1	3.962	60.8	+2.8114-.0123	+0.015	-.0021 0	.09	.44	.23	
3393	$\xi$ Centauri	4.4		1	4.209	75.8	+3.4789+.0475	+0.030	-.0036 0	.13	.54	.22	
3394	Pi 262	7.6		1	10.302	68.4	+3.1604+.0129	+0.009	-.0023 0	.13	.54	.26	
3395	L 5400	5.8		1	20.144	76.4	+3.3247+.0289	+0.015	+0.0019 0	.18	.94	.37	
3396	Groomb 1956	5.9		1	22.443	65.6	+2.7090-.0173	+0.019	+0.0004 0	.13	.64	.32	
3397	Br 1740	6.3		1	28.817	65.4	+2.9262-.0051	+0.010	-.0052 0	.11	.50	.25	
3398	Br 1741	6.2		1	30.594	67.2	+2.9231-.0058	+0.011	+0.0023 0	.12	.48	.24	
3399	$\theta$ Muscæ	5.7		1	39.675	83.0	+3.8248+.0959	+0.092	-.0015 0	.15	.78	.26	
3400	L 5398	6.1	13	1	41.651	88.2	+3.5379+.0547	+0.037	-.0048 0	.14	.78	.22	

3355  $\Sigma$  1687. 8<sup>m</sup> 1'' 1 81°, slow; 9<sup>m</sup> 29'' 126°.3375  $\Sigma$  1704. 11<sup>m</sup> 21'' 53°.3378 Clark. 9<sup>m</sup> 1'' 4 153°.3370-1  $\Sigma$  1692. 20'' 227.3379  $\beta$  1081. 13<sup>m</sup> 5'' 341°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3351	-48 23 56.94	79.8	-19.648+.109	+.22	-.030 0	.13	.59	.22	149 G Centauri <i>e</i>
3352	-39 38 6.24	80.5	-19.649+.109	+.20	-.038 0	.08	.37	.14	150 G Centauri <i>n</i>
3353	-3 0 35.37	68.1	-19.621+.101	+.17	-.013 0	.06	.25	.12	38 Virginis
3354	+83 57 41.53	73.6	-19.590+.020		+.014 0	.06	.24	.10	Br 1730
3355	+21 47 18.89	63.8	-19.633+.099	+.15	-.031 0	.07	.29	.15	35 Comæ Ber *
3356	+83 57 23.40	73.2	-19.587+.020		+.015 0	.05	.20	.09	Br 1731. $\Sigma$ 1694
3357	-58 36 12.87	82.8	-19.635+.117	+.25	-.039 0	.13	.57	.20	
3358	-56 38 5.21	74.2	-19.609+.116	+.24	-.013 0	.11	.51	.21	} Dunlop 34" 17° } Br 1738
3359	-56 37 31.56	79.8	-19.612+.116	+.24	-.017 0	.14	.60	.23	
3360	+12 57 43.35	76.3	-19.627+.101	+.16	-.033 0	.10	.35	.16	
3361	-11 6 22.47	86.0	-19.589+.105	+.17	-.001 0	.11	.54	.17	
3362	-8 59 45.14	67.6	-19.609+.105	+.17	-.021 0	.05	.22	.10	
3363	+56 30 9.29	71.2	-19.590+.092	+.10	-.011 0	.04	.16	.07	
3364	-42 22 23.57	83.7	-19.609+.113	+.21	-.032 0	.15	.77	.25	152 G Centauri
3365	-71 38 34.51	89.1	-19.606+.132	+.34	-.031 0	.15	.87	.24	53 G Muscæ
3366	-56 17 37.39	79.4	-19.597+.119	+.24	-.026 0	.14	.59	.23	54 G Crucis
3367	+3 56 26.80	72.4	-19.625+.104	+.16	-.064- 1	.03	.16	.07	
3368	-25 55 5.28	83.7	-19.569+.112	+.19	-.019 0	.11	.82	.24	336 G Hydræ
3369	-50 39 25.29	75.6	-19.583+.119	+.23	-.037 0	.14	.63	.26	156 G Centauri <i>H</i>
3370	+38 51 16.45	68.9	-19.498+.099	+.13	+.048- 1	.06	.32	.14	Br 1724 *
3371	+38 51 29.86	68.2	-19.503+.099	+.13	+.043- 1	.03	.14	.06	} 12 Canum Ven } 8 Draconis
3372	+65 58 51.33	75.7	-19.578+.086	+.08	-.035 0	.06	.31	.12	
3373	+54 38 26.26	60.2	-19.541+.094	+.11	-.006 0	.08	.30	.17	$\Sigma$ 1195. 8 <sup>m</sup> 3 <sup>s</sup> 5 <sup>s</sup> 284°
3374	+17 56 54.17	69.1	-19.474+.109	+.14	+.019 0	.08	.33	.16	36 Comæ Ber
3375	-3 16 21.60	67.8	-19.487+.114	+.17	-.004 0	.07	.31	.15	44 Virginis <i>k</i> *
3376	-32 57 49.86	74.4	-19.544+.122	+.20	-.073 0	.12	.65	.26	162 G Centauri
3377	-71 0 34.06	77.1	-19.494+.152	+.35	-.030+ 2	.07	.42	.16	
3378	-2 49 51.16	69.8	-19.417+.116	+.17	+.046 0	.08	.33	.16	46 Virginis *
3379	+31 19 27.42	66.5	-19.486+.109	+.13	-.024 0	.09	.35	.18	37 Comæ Ber. (13 Canum Ven) *
3380	+67 8 12.01	64.3	-19.462+.088	+.07	-.014- 1	.07	.32	.16	9 Draconis
3381	+17 39 44.54	76.4	-19.479+.113	+.14	-.032 0	.11	.35	.16	38 Comæ Ber
3382	+56 54 18.87	66.8	-19.465+.101	+.09	-.023 0	.08	.34	.17	78 Ursæ Maj *
3383	+11 29 47.55	76.0	-19.409+.115	+.15	+.017- 1	.03	.17	.07	
3384	-48 59 22.45	76.6	-19.442+.133	+.23	-.029 0	.13	.55	.23	165 G Centauri $\xi^1$
3385	+64 8 50.74	71.9	-19.387+.093	+.08	+.024- 1	.09	.39	.18	
3386	-33 42 46.78	76.9	-19.410+.129	+.20	-.007 0	.13	.51	.21	
3387	-20 2 47.30	89.0	-19.392+.126	+.18	+.007 0	.09	.77	.18	$\beta$ 341. 6 <sup>m</sup> 4-7 <sup>m</sup> 0 0 <sup>s</sup> 7 312°
3388	-3 7 30.96	69.7	-19.432+.122	+.17	-.040 0	.07	.32	.15	48 Virginis *
3389	-77 54 36.95	87.1	-19.376+.185	+.55	-.019- 1	.11	.63	.18	43 G Chamæleontis *
3390	-47 55 37.95	78.1	-19.397+.140	+.23	-.044 0	.13	.55	.22	171 G Centauri <i>f</i> *
3391	-41 3 9.48	82.4	-19.379+.138	+.21	-.036 0	.13	.85	.27	172 G Centauri
3392	+36 20 1.83	58.2	-19.329+.116	+.13	+.010 0	.08	.41	.23	14 Canum Ven
3393	-49 22 14.55	73.4	-19.364+.142	+.24	-.024 0	.10	.42	.18	173 G Centauri $\xi^2$ *
3394	-14 22 52.04	70.1	-19.332+.130	+.18	+.005 0	.13	.48	.23	
3395	-35 19 28.78	70.3	-19.432+.136	+.20	-.099 0	.16	1.18	.49	176 G Centauri
3396	+45 48 11.99	60.9	-19.303+.113	+.11	+.029 0	.12	.52	.28	$\beta$ 930. 12 <sup>m</sup> 2 <sup>s</sup> 8 119°
3397	+21 41 23.44	64.1	-19.383+.121	+.14	-.053 0	.09	.36	.19	39 Comæ Ber
3398	+23 9 9.12	64.9	-19.386+.121	+.14	-.057 0	.11	.44	.23	40 Comæ Ber
3399	-64 46 16.70	79.2	-19.350+.156	+.31	-.024 0	.11	.59	.21	Dunlop. 8 <sup>m</sup> 5 <sup>s</sup> 185°
3400	-52 55 27.46	84.9	-19.357+.145	+.25	-.032 0	.12	.58	.19	177 G Centauri

3382  $\beta$  1082. 10<sup>m</sup> 1<sup>s</sup> 3 94°, slow.3390 h 4567. 11<sup>m</sup> 20<sup>s</sup> 90°.3388  $\beta$  929. 7<sup>m</sup> 7<sup>s</sup> 0<sup>s</sup> 6 219°.3393 Dunlop. 10<sup>m</sup> 25<sup>s</sup> 101°.3389 h 4566. 12<sup>m</sup> 30<sup>s</sup> 228°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors. a Ep. 100 $\mu$ a 10		
			M	h	m	s	s	s			"	"	"
3401	Br 1743	5.0	13	2	22.844	60.9	+2.8819-.0081	+0.012	+0.0019	0	.10	.50	.26
3402	Pi 278	6.5		2	25.933	73.6	+2.3806-.0249	+0.036	+0.0013	0	.10	.48	.20
3403	Br 1742	5.4		2	39.411	69.5	+3.1383+.0106	+0.009	+0.0010	0	.08	.33	.16
3404	Åbo 292	5.9		3	19.546	75.8	+3.1242+.0097	+0.009	-.0023	0	.09	.50	.19
3405	$\psi$ Hydrae	5.2		3	39.999	73.5	+3.2228+.0184	+0.010	-.0020	0	.10	.36	.16
3406	Paris 16164	6.0		4	11.912	99.3	+3.0047+.0003	+0.009	+0.0012	0	.12	.90	.15
3407	Groomb 2006	7.7		4	30.28	63.5	-8.665+.6.022		-.013+.17		.08	.33	.17
3408	Br 1746	6.5		4	31.187	71.8	+3.1363+.0105	+0.009	-.0001	0	.09	.45	.20
3409	$\theta$ Virginis	4.4		4	46.289	76.7	+3.1024+.0079	+0.009	-.0026	0	.03	.15	.06
3410	L 5413	6.5		5	0.938	88.6	+3.5469+.0533	+0.035	-.0048	0	.20	.90	.27
3411	Br 1749	6.5		5	5.941	76.1	+2.7671-.0132	+0.016	-.0012	0	.10	.38	.16
3412	$\alpha$ Comæ Ber m	4.4		5	7.419	71.1	+2.9199-.0030	+0.010	-.0303+	1	.07	.27	.13
3413	Br 1750	7.5		5	25.739	70.8	+2.7611-.0132	+0.016	-.0037	0	.10	.34	.17
3414	L 5420	6.0		5	26.934	86.3	+3.3992+.0362	+0.020	-.0086-	1	.15	.90	.26
3415	Br 1751	6.2		5	27.738	82.0	+2.7608-.0130	+0.016	-.0063	0	.06	.28	.10
3416	Pi 3	8.3		5	36.310	78.0	+3.1336+.0104	+0.009	-.0024	0	.13	.54	.22
3417	L 5422	5.3		5	40.075	80.6	+3.4110+.0376	+0.021	-.0116-	1	.13	.70	.25
3418	L 5406	5.9		5	57.856	85.9	+4.8426+.2927	+0.594	-.0019	0	.09	.88	.23
3419	L 5418	4.7		6	2.826	88.6	+3.7076+.0736	+0.057	-.0067-	1	.15	.90	.24
3420	L 5428	6.8		6	12.829	86.4	+3.2529+.0210	+0.011	-.0053	0	.13	.80	.23
3421	L 5429	4.9		6	28.494	86.1	+3.3305+.0307	+0.016	-.0327-	2	.10	.52	.16
3422	Br 1752	5.2		6	44.146	68.8	+3.1862+.0141	+0.009	+0.0063+	1	.07	.32	.15
3423	Br 1753	7.5		6	56.286	63.1	+2.7315-.0140	+0.016	-.0025	0	.14	.50	.27
3424	$\beta$ Comæ Ber	4.3		7	12.444	79.7	+2.8032-.0076	+0.012	-.0604+	1	.03	.20	.07
3425	L 5438	7.0		7	13.708	83.2	+3.2906+.0254	+0.013	-.0170	0	.18	1.06	.34
3426	L 5435	6.2		7	27.376	82.7	+3.5329+.0498	+0.030	-.0043	0	.16	.84	.28
3427	L 5437	5.1		8	3.547	91.0	+3.6795+.0706	+0.053	-.0327-	4	.16	1.02	.25
3428	Br 1754	7.1		8	5.983	71.7	+3.1996+.0157	+0.009	-.0021	0	.13	.48	.23
3429	$\eta$ Muscæ	5.0		8	28.086	85.0	+4.0112+.1154	+0.121	-.0045-	1	.12	.75	.22
3430	Br 1756	5.8		8	49.723	63.0	+3.2029+.0163	+0.010	-.0087-	1	.14	.42	.24
3431	Pi 21	7.0		8	51.777	67.5	+3.0545+.0046	+0.009	-.0041	0	.16	.62	.31
3432	Pi 27	5.1		9	10.959	76.2	+2.7269-.0133	+0.015	-.0039	0	.09	.45	.17
3433	Br 1757	7.5		9	30.530	69.9	+3.1391+.0107	+0.009	-.0025	0	.15	.52	.26
3434	Paris 16232	6.0		9	31.944	83.4	+2.9934-.0001	+0.009	+0.0049	0	.12	.48	.17
3435	Pi 25	7.4		9	41.670	80.7	+3.1353+.0114	+0.009	-.0136	0	.10	.52	.18
3436	Pi 26	8.2		9	45.410	80.6	+3.1495+.0113	+0.009	+0.0006	0	.14	.82	.28
3437	L 5451	4.8		10	28.520	87.4	+3.9905+.1087	+0.107	-.0014	0	.20	.86	.27
3438	Br 1758	5.5		10	34.223	71.2	+3.2360+.0167	+0.009	+0.0209+	1	.09	.33	.16
3439	Br 1759	5.9		11	2.203	61.6	+2.7028-.0132	+0.016	-.0104+	1	.14	.45	.26
3440	L 5466	5.3		11	19.769	85.0	+3.3201+.0254	+0.012	+0.0021	0	.08	.52	.16
3441	L 5464	6.0		11	25.876	91.2	+3.4602+.0392	+0.021	-.0005	0	.16	1.20	.28
3442	Groomb 1977	6.5		11	31.721	69.2	+0.4838+.1296	-.378	+0.0026-	2	.09	.40	.19
3443	Br 1760	5.4		11	48.709	70.4	+2.9775+.0010	+0.008	-.0226	0	.08	.27	.14
3444	Br 1761	7.5		12	12.740	71.7	+3.1392+.0109	+0.008	-.0063	0	.08	.42	.18
3445	Pi 41	5.6		12	18.858	69.8	+2.9680-.0010	+0.009	+0.0006	0	.13	.69	.30
3446	$\sigma$ Virginis	5.0		12	33.280	84.8	+3.0277+.0028	+0.008	-.0009	0	.09	.32	.12
3447	Br 1765	4.8		13	3.565	83.1	+2.6959-.0128	+0.015	-.0111+	1	.05	.26	.09
3448	Br 1763	4.8		13	10.339	71.4	+3.1313+.0156	+0.009	-.0754	0	.06	.27	.12
3449	$\gamma$ Hydrae	3.2		13	29.041	84.9	+3.2529+.0189	+0.010	+0.0048	0	.05	.27	.08
3450	Br 1767	5.2	13	13	59.378	58.3	+2.5605-.0167	+0.019	-.0028	0	.12	.39	.23

3412  $\Sigma$  1728. 5<sup>m</sup>2-5<sup>m</sup>2 < 1", binary; 26 years  $\pm$ .3415  $\beta$  608. 10<sup>m</sup> 1"1 282°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>dt</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3401	+28 9 40.60	61.0	-19.394+.121	+.13	-.085 0	.09	.44	.23	41 Comæ Ber
3402	+62 34 40.41	71.7	-19.352+.102	+.08	-.044 0	.09	.38	.17	
3403	-10 12 21.00	62.4	-19.320+.132	+.17	-.018 0	.07	.25	.14	49 Virginis (g)
3404	- 8 26 55.55	73.5	-19.357+.132	+.17	-.071 0	.08	.40	.16	
3405	-22 35 0.43	76.6	-19.333+.137	+.19	-.055 0	.08	.34	.14	
3406	+10 33 20.83	97.1	-19.273+.129	+.15	-.008 0	.11	.77	.15	
3407	+88 11 11.52	61.3	-19.246-.343		+.012 0	.10	.45	.24	
3408	- 9 47 45.64	71.5	-19.281+.135	+.17	-.023 0	.08	.39	.17	50 Virginis
3409	- 5 0 18.83	72.6	-19.294+.134	+.17	-.042 0	.03	.15	.06	$\approx 1724. 9^m 7'' 344^\circ$
3410	-52 2 2.15	78.7	-19.279+.153	+.25	-.033 0	.14	.56	.22	179 G Centauri
3411	+39 3 59.70	59.0	-19.248+.121	+.12	-.004 0	.12	.39	.23	15 Canum Ven
3412	+18 3 29.61	68.4	-19.121+.126	+.14	+.122- 1	.06	.25	.12	Br. 1748. 42 Comæ Ber*
3413	+39 15 22.78	67.3	-19.251+.121	+.12	-.016 0	.08	.30	.15	16 Canum Ven
3414	-41 42 0.16	84.0	-19.269+.147	+.22	-.034 0	.14	.79	.25	181 G Centauri
3415	+39 1 48.79	70.0	-19.207+.121	+.12	+.028 0	.06	.26	.12	17 Canum Ven*
3416	- 9 34 14.58	76.5	-19.243+.137	+.17	-.012 0	.11	.47	.19	
3417	-42 50 9.34	71.6	-19.273+.148	+.22	-.043 0	.11	.50	.22	182 G Centauri
3418	-77 54 59.10	85.5	-19.249+.208	+.60	-.027 0	.09	.71	.20	44 G Chamæleontis
3419	-59 23 18.19	85.0	-19.254+.161	+.28	-.034 0	.11	.64	.19	183 G Centauri*
3420	-26 1 12.12	85.1	-19.225+.143	+.19	-.009 0	.13	.88	.26	342 G Hydræ
3421	-37 16 22.05	80.9	-19.180+.146	+.21	+.030- 1	.11	.48	.18	185 G Centauri
3422	-15 39 33.11	72.2	-19.503+.142	+.18	-.300 0	.06	.28	.12	53 Virginis
3423	+41 19 27.10	57.6	-19.212+.123	+.12	-.014 0	.12	.39	.24	18 Canum Ven
3424	+28 23 5.71	74.6	-18.316+.124	+.13	+.875- 3	.04	.21	.08	43 Comæ Ber
3425	-31 20 1.13	74.4	-19.502+.146	+.20	-.312- 1	.16	.83	.34	188 G Centauri
3426	-50 10 6.76	82.4	-19.214+.157	+.25	-.029 0	.14	.73	.24	189 G Centauri
3427	-58 34 7.36	83.5	-19.344+.164	+.28	-.175- 1	.12	.58	.20	191 G Centauri
3428	-18 17 44.71	70.4	-19.193+.145	+.18	-.025 0	.12	.46	.22	54 <sup>1</sup> Virginis*
3429	-67 21 52.57	81.9	-19.178+.180	+.34	-.019 0	.10	.55	.18	
3430	-19 24 20.08	66.4	-18.996+.146	+.18	+.154 0	.12	.40	.21	55 Virginis
3431	+ 1 59 15.06	68.3	-19.221+.140	+.16	-.072 0	.13	.54	.26	
3432	+40 40 56.06	70.1	-19.141+.126	+.12	-.001 0	.08	.32	.15	
3433	- 9 50 22.67	68.1	-19.180+.145	+.17	-.048 0	.13	.41	.22	56 Virginis
3434	+11 51 45.55	81.4	-19.185+.139	+.15	-.054 0	.12	.43	.17	
3435	-10 49 53.66	77.0	-19.454+.144	+.17	-.327- 1	.08	.36	.15	
3436	-10 49 8.78	82.1	-19.132+.146	+.17	-.007 0	.11	.73	.23	
3437	-66 15 18.20	81.8	-19.140+.184	+.34	-.034 0	.15	.63	.23	62 G Muscæ
3438	-19 24 40.98	72.7	-19.232+.152	+.19	-.128+ 1	.10	.37	.17	57 Virginis
3439	+41 22 59.10	57.6	-19.093+.128	+.11	-.001 0	.12	.39	.24	19 Canum Ven
3440	-30 58 37.06	81.6	-19.148+.156	+.20	-.064 0	.09	.50	.17	195 G Centauri r
3441	-43 27 5.33	89.0	-19.112+.163	+.23	-.031 0	.13	.89	.23	196 G Centauri
3442	+81 0 1.74	63.2	-19.072+.030	+.10	+.006 0	.10	.40	.21	
3443	+ 9 56 47.76	73.0	-18.885+.141	+.15	+.186- 1	.07	.25	.11	59 Virginis e
3444	-10 1 9.81	72.0	-19.051+.150	+.17	+.009 0	.08	.36	.16	58 Virginis.
3445	+14 12 6.84	64.8	-19.032+.142	+.14	+.025 0	.12	.59	.29	
3446	+ 5 59 47.90	82.0	-19.042+.146	+.15	+.009 0	.08	.29	.12	
3447	+41 5 56.04	77.0	-19.033+.131	+.11	+.004 0	.06	.27	.10	20 Canum Ven
3448	-17 45 18.52	74.3	-20.118+.148	+.18	-1.084- 3	.06	.27	.11	61 Virginis
3449	-22 38 38.42	85.4	-19.076+.158	+.19	-.051 0	.06	.29	.09	
3450	+50 12 28.20	46.2	-19.003+.126	+.10	+.008 0	.12	.34	.25	21 Canum Ven

3419 Innes.  $8^m 2'' 346^\circ$ .3428 W. H.  $8^m 5'' 35^\circ$ .

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
3451	L 5484	5.8	<sup>m</sup> 13 14 33.024	84.4	<sup>s</sup> +3.6201+.0551	<sup>"</sup> +.034	<sup>s</sup> -.0033 0	<sup>"</sup> .18	<sup>"</sup> .75	<sup>"</sup> .26
3452	$\epsilon$ Centauri	2.8	14 58.453	80.2	+3.3584+.0303	+.015	-.0281- 2	.07	.30	.12
3453	L 5489	6.0	15 3.763	88.8	+3.5087+.0442	+.024	-.0144- 1	.21	1.60	.40
3454	Br 1766	7.1	15 4.762	61.3	+3.1454+.0114	+.008	-.0088 0	.13	.40	.24
3455	Br 1769	5.8	15 50.113	77.6	+2.6941-.0123	+.014	-.0051 0	.09	.30	.13
3456	L 5490	6.7	16 7.804	85.2	+3.8387+.0802	+.061	-.0023 0	.18	.86	.28
3457	L 5492	4.6	16 10.090	85.6	+3.8373+.0802	+.061	-.0046 0	.18	.90	.28
3458	L 5498	6.2	16 11.176	95.6	+3.6207+.0541	+.033	-.0031 0	.16	1.20	.24
3459	Paris 16337	5.8	16 36.555	86.6	+3.0478+.0046	+.008	-.0045 0	.12	.56	.18
3460	Pi 62	7.5	16 50.946	76.8	+3.1668+.0123	+.009	+.0005 0	.16	.69	.28
3461	L 5507	6.7	17 4.021	95.2	+3.5622+.0471	+.026	-.0006 0	.15	1.17	.23
3462	Br 1770	6.0	17 7.138	75.0	+3.0237+.0032	+.008	-.0047 0	.11	.32	.16
3463	L 5486	5.0	17 13.763	86.9	+4.6171+.2080	+.311	-.0339- 7	.18	.82	.26
3464	L 5500	4.5	17 17.096	87.7	+3.9841+.0977	+.084	+.0047+ 1	.20	.87	.27
3465	Br 1771	5.6	17 39.641	65.7	+3.2060+.0154	+.009	-.0040 0	.13	.44	.23
3466	Pi 71	6.5	17 41.450	82.2	+2.6297-.0135	+.016	-.0070+ 1	.12	.58	.20
3467	Br 1772	6.1	18 7.918	74.7	+3.1051+.0082	+.008	-.0016 0	.11	.46	.20
3468	L 5509	5.5	18 32.226	88.0	+3.9685+.0968	+.084	-.0231- 4	.20	.90	.28
3469	L 5506	6.0	18 33.323	88.7	+4.3304+.1469	+.166	+.0168+ 5	.20	.98	.28
3470	Groomb 2007	7.5	18 38.94	77.8	-2.475+.895		-.104+ 107	.07	.34	.13
3471	Br 1773	6.0	19 20.817	76.2	+3.1191+.0084	+.008	+.0100 0	.09	.48	.19
3472	L 5504	7.1	19 21.416	83.0	+4.6601+.2069	+.302	-.0120- 3	.18	.75	.27
3473	L 5452	7.4	19 43.02	74.7	+8.618+.1580		-.004- 2	.10	.72	.27
3474	$\zeta^1$ Ursæ Maj	2.2	19 54.032	70.6	+2.4242-.0172	+.021	+.0148- 2	.04	.18	.08
3475	$\zeta^2$ Ursæ Maj	4.3	19 54.938	74.9	+2.4248-.0172	+.021	+.0155- 2	.08	.42	.16
3476	$\alpha$ Virginis	0.9	19 55.444	66.0	+3.1553+.0116	+.008	-.0028 0	.02	.11	.05
3477	L 5531	5.2	20 19.711	88.4	+3.4631+.0347	+.017	+.0161+ 2	.15	.84	.24
3478	Pi 77	5.9	20 20.552	70.0	+2.8644-.0048	+.010	.0000 0	.13	.72	.32
3479	L 5543	5.8	21 6.830	89.2	+3.4723+.0366	+.017	-.0024 0	.16	1.53	.36
3480	Br 1779	4.0	21 13.257	67.0	+2.4116-.0168	+.021	+.0143- 2	.07	.27	.14
3481	Br 1775	5.7	21 26.127	69.9	+3.1636+.0125	+.008	-.0092 0	.08	.32	.15
3482	Br 1778	5.0	22 7.059	69.3	+3.1932+.0144	+.009	-.0087 0	.13	.48	.23
3483	Pi 96	6.8	22 34.854	78.0	+2.0571-.0132	+.023	-.0587+ 8	.09	.48	.18
3484	Pi 87	7.7	22 56.879	86.7	+3.2846+.0207	+.010	-.0053 0	.14	.72	.22
3485	Pi 89	7.8	23 9.351	79.8	+3.0885+.0065	+.008	+.0136+ 1	.09	.62	.21
3486	L 5552	5.4	23 17.358	87.0	+3.6494+.0528	+.030	-.0023 0	.16	1.17	.32
3487	Br 1780	5.2	23 32.331	67.6	+2.9341+.0001	+.009	-.0167+ 2	.07	.26	.13
3488	Pi 109	6.3	23 35.071	82.8	+1.5275+.0075	-.006	+.0056- 1	.05	.36	.11
3489	Pi 93	7.3	24 5.020	71.1	+3.2325+.0163	+.009	+.0024 0	.15	.64	.29
3490	Pi 95	6.8	24 6.910	72.6	+3.0765+.0066	+.008	-.0029 0	.12	.51	.25
3491	R Hydræ	Var.	24 14.765	79.5	+3.2686+.0193	+.009	-.0053 0	.11	.50	.19
3492	Br 1781	5.9	24 15.745	75.3	+2.9720+.0011	+.008	-.0040 0	.10	.33	.15
3493	$\kappa$ Octantis	5.7	24 42.12	78.4	+8.838+.1606		-.073- 72	.05	.39	.13
3494	Pi 110	5.5	24 46.915	78.8	+2.2082-.0149	+.021	-.0114+ 2	.06	.36	.13
3495	Br 1782	6.3	25 12.631	77.0	+3.1256+.0092	+.008	+.0026 0	.07	.34	.14
3496	L 5569	3.8	25 14.622	78.4	+3.4628+.0342	+.016	-.0013 0	.10	.44	.17
3497	Pi 133	6.1	26 5.559	69.7	+0.4643+.1083	-.244	-.0473+ 21	.08	.45	.20
3498	Br 1783	6.1	26 39.186	75.7	+3.2284+.0163	+.009	-.0063 0	.09	.39	.16
3499	Br 1784	5.0	26 45.903	70.0	+3.1153+.0092	+.008	-.0067 0	.07	.26	.12
3500	Groomb 2008	6.3	13 26 55.484	61.8	+2.6086-.0113	+.014	-.0084+ 1	.13	.68	.35

3457 6<sup>m</sup>5 prec. 2<sup>m</sup>3, N 57<sup>m</sup>.3491 4<sup>m</sup>5 to 10<sup>m</sup>.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3451	-52 13 20.13	78.1	-19.044+.177	+.26	-.048 0	.14	.56	.23	202 G Centauri
3452	-36 11 5.57	77.8	-19.078+.164	+.21	-.094- 1	.07	.29	.12	
3453	-46 21 21.09	84.6	-18.997+.172	+.24	-.016- 1	.16	.99	.30	205 G Centauri
3454	-10 46 43.61	64.5	-19.000+.155	+.17	-.019 0	.12	.38	.21	62 Virginis
3455	+40 40 30.96	69.5	-18.979+.136	+.11	-.020 0	.10	.31	.16	23 Canum Ven
3456	-60 26 52.73	82.3	-18.974+.190	+.30	-.023 0	.14	.67	.23	207 G Centauri
3457	-60 27 50.82	78.5	-18.969+.190	+.30	-.019 0	.13	.59	.23	208 G Centauri <i>J</i> *
3458	-51 39 32.36	92.4	-18.947+.180	+.26	+.002 0	.13	.82	.19	209 G Centauri
3459	+ 2 36 45.66	82.6	-18.990+.154	+.16	-.053 0	.11	.47	.17	
3460	-12 3 21.32	81.1	-18.956+.160	+.17	-.026 0	.14	.63	.23	
3461	-48 2 21.89	92.8	-18.916+.179	+.25	+.008 0	.12	.84	.19	210 G Centauri
3462	+ 5 40 45.19	73.8	-18.962+.153	+.15	-.039 0	.10	.33	.16	64 Virginis
3463	-74 21 42.86	85.5	-19.069+.229	+.53	-.150- 2	.15	.67	.22	66 G Muscæ $\epsilon^1$
3464	-64 0 44.60	84.7	-18.957+.200	+.34	-.039 0	.15	.73	.24	214 G Centauri <i>m</i>
3465	-17 12 41.70	72.9	-18.948+.163	+.18	-.041 0	.13	.50	.23	63 Virginis
3466	+44 25 34.01	76.2	-18.906+.135	+.10	.000 0	.10	.43	.18	
3467	- 4 24 5.00	71.2	-18.913+.159	+.17	-.020 0	.09	.38	.17	65 Virginis
3468	-63 57 46.22	85.2	-18.920+.201	+.35	-.039- 1	.15	.75	.24	215 G Centauri
3469	-70 6 20.84	89.1	-18.905+.219	+.42	-.024+ 1	.16	.94	.25	67 G Muscæ
3470	+85 16 38.46	74.8	-18.852-.119		+.026- 5	.08	.36	.15	
3471	- 4 38 29.45	71.4	-18.897+.163	+.17	-.040 0	.08	.35	.16	66 Virginis
3472	-74 10 14.79	83.3	-18.884+.238	+.53	-.027- 1	.15	.65	.23	68 G Muscæ $\epsilon^2$
3473	-85 18 26.18	74.4	-18.853+.436		-.007 0	.08	.65	.25	17 G Octantis
3474	+55 26 51.03	65.0	-18.871+.129	+.08	-.030+ 1	.04	.15	.08	} <i>Mizar</i> Σ 1744. 14" 150°
3475	+55 26 38.69	65.8	-18.875+.131	+.08	-.035+ 1	.07	.27	.14	
3476	-10 38 22.04	65.1	-18.876+.165	+.17	-.036 0	.02	.11	.05	<i>Spica</i>
3477	-39 13 59.73	78.0	-18.907+.182	+.23	-.079+ 1	.12	.49	.20	217 G Centauri
3478	+24 22 31.69	62.8	-18.842+.151	+.13	-.014 0	.14	.59	.31	
3479	-40 58 40.03	84.4	-18.841+.183	+.23	-.037 0	.14	.85	.26	221 G Centauri
3480	+55 30 32.33	63.8	-18.825+.131	+.08	-.024+ 1	.07	.22	.12	80 Ursæ Maj <i>g</i>
3481	-12 11 14.41	64.0	-18.817+.168	+.17	-.022 0	.07	.23	.13	68 Virginis <i>i</i>
3482	-15 27 18.45	67.7	-18.761+.171	+.18	+.013 0	.11	.37	.19	69 Virginis
3483	+63 46 28.53	75.3	-18.545+.111	+.06	+.215- 3	.08	.37	.15	
3484	-24 41 40.96	87.0	-18.762+.177	+.19	-.014 0	.12	.56	.18	
3485	- 0 18 38.41	78.2	-19.157+.168	+.16	-.415+ 1	.08	.53	.19	
3486	-50 38 49.39	78.8	-18.757+.197	+.26	-.019 0	.12	.59	.22	224 G Centauri <i>K</i>
3487	+14 18 45.92	69.8	-19.316+.160	+.14	-.586- 1	.06	.27	.12	70 Virginis
3488	+72 54 38.53	79.4	-18.745+.088	+.04	-.017 0	.05	.31	.11	Groomb 2001
3489	-18 12 40.08	76.0	-18.733+.177	+.19	-.020 0	.13	.59	.24	
3490	- 0 50 42.91	76.4	-18.773+.168	+.16	-.061 0	.11	.41	.18	
3491	-22 45 52.42	84.7	-18.704+.179	+.19	+.004 0	.10	.49	.16	347 G Hydræ *
3492	+11 20 12.05	74.7	-18.750+.164	+.15	-.043 0	.10	.31	.15	71 Virginis
3493	-85 16 24.65	79.9	-18.717+.469		-.024- 4	.05	.37	.12	
3494	+60 27 43.93	74.8	-18.657+.124	+.07	+.034- 1	.07	.33	.13	
3495	- 5 57 15.17	68.5	-18.666+.174	+.17	+.011 0	.07	.31	.15	72 Virginis $l^1$ *
3496	-38 53 27.10	74.9	-18.701+.191	+.23	-.025 0	.09	.38	.16	227 G Centauri <i>d</i>
3497	+79 9 37.55	66.6	-18.627+.030	+.10	+.022- 2	.08	.40	.19	Groomb 2012
3498	-18 12 48.41	73.6	-18.654+.181	+.19	-.023 0	.09	.36	.16	73 Virginis
3499	- 5 44 22.56	65.6	-18.676+.175	+.17	-.049 0	.06	.23	.12	74 Virginis <i>l</i> ( $l^2$ )
3500	+42 37 13.90	54.7	-18.603+.148	+.10	+.019 0	.10	.49	.29	



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
3501	Pi 112	6.8	13 26 59.062	77.7	+3.3415+.0243	+0.011	-.0059 0	.10	.51	.20
3502	L 5580	5.9	27 1.631	87.0	+3.3294+.0236	+0.011	-.0083 0	.11	.66	.19
3503	Br 1785	5.8	27 30.997	70.3	+3.1999+.0142	+0.008	-.0045 0	.10	.50	.22
3504	Br 1786	5.5	27 41.987	71.2	+3.1552+.0113	+0.008	-.0020 0	.07	.33	.14
3505	Br 1787	7.5	28 11.000	67.2	+3.1293+.0099	+0.008	-.0056 0	.13	.54	.27
3506	Br 1788	5.0	29 3.845	65.6	+3.0382+.0045	+0.008	+0.0028 0	.08	.32	.16
3507	Pi 126 <i>m</i>	6.0	29 21.376	77.1	+3.1826+.0131	+0.008	-.0042 0	.10	.62	.23
3508	$\zeta$ Virginis	3.3	29 35.827	74.2	+3.0540+.0064	+0.008	-.0191 0	.03	.15	.06
3509	Br 1792	5.8	30 16.663	64.0	+2.3138-.0138	+0.019	-.0020 0	.11	.44	.23
3510	Br 1790	6.0	30 19.102	72.5	+3.1175+.0088	+0.007	+0.0013 0	.09	.40	.18
3511	Pi 136	5.1	30 19.946	85.1	+2.6828-.0092	+0.013	+0.0070 0	.05	.34	.10
3512	Br 1791	4.8	30 22.153	70.1	+2.4586-.0127	+0.016	-.0120+ 1	.07	.27	.13
3513	L 5589 <i>m</i>	5.7	30 25.225	84.4	+4.0226+.0874	+0.062	+0.0167+ 4	.16	.90	.28
3514	L 5577	6.6	30 38.201	89.5	+5.0096+.2413	+0.358	-.0078- 1	.15	.86	.23
3515	Pi 135	5.6	31 15.480	83.2	+3.3182+.0220	+0.010	-.0067 0	.10	.58	.18
3516	Br 1793 <i>m</i>	7.4	32 20.805	67.0	+3.1388+.0102	+0.007	-.0012 0	.11	.48	.24
3517	Pi 143	7.3	32 45.436	83.0	+3.3672+.0248	+0.011	-.0008 0	.14	.66	.22
3518	Dpt 1544	5.0	33 1.117	79.2	+2.6690-.0084	+0.012	-.0086 0	.07	.44	.15
3519	Pi 146	6.2	33 4.815	79.0	+3.3592+.0246	+0.010	-.0064 0	.11	.54	.20
3520	L 5609	5.9	33 10.597	92.3	+4.1513+.1023	+0.080	-.0079- 1	.20	1.17	.28
3521	$\epsilon$ Centauri	2.3	33 32.974	71.4	+3.7719+.0592	+0.033	-.0034 0	.09	.36	.17
3522	Groomb 2022	8.1	33 41.201	86.1	+2.6122-.0090	+0.013	-.0192+ 2	.08	.45	.14
3523	Pi 156 <i>m</i>	6.9	33 42.590	70.5	+2.4093-.0125	+0.017	-.0016 0	.13	.48	.23
3524	L 5622	5.8	33 48.839	85.6	+3.6807+.0510	+0.025	-.0132- 1	.18	1.22	.35
3525	L 5625	5.7	33 55.983	92.8	+3.5090+.0355	+0.015	-.0030 0	.18	1.19	.27
3526	Pulk <sub>ss</sub> 2035 <i>m</i>	5.7	34 38.733	80.8	+2.9580+.0016	+0.007	-.0076 0	.11	.46	.18
3527	Groomb 2029	5.8	34 46.831	83.3	+1.4355+.0128	-.012	-.0080+ 2	.05	.44	.12
3528	L 5632	5.5	35 20.359	87.8	+3.8123+.0622	+0.035	-.0048 0	.18	.92	.27
3529	L 5627	5.6	35 22.928	87.4	+3.9415+.0755	+0.047	-.0050 0	.20	.87	.28
3530	Br 1799	5.5	35 38.326	66.0	+2.3262-.0120	+0.017	-.0161+ 2	.12	.40	.21
3531	Br 1797	5.8	35 53.909	60.4	+2.8664-.0020	+0.008	-.0033 0	.09	.40	.22
3532	Pi 161	7.6	35 54.341	88.1	+2.8663-.0021	+0.008	-.0028 0	.11	.51	.16
3533	Br 1798	5.9	36 18.520	65.2	+2.8397-.0030	+0.009	-.0012 0	.11	.54	.27
3534	Br 1796	5.3	36 21.739	77.0	+3.1440+.0108	+0.007	-.0069 0	.04	.21	.08
3535	L 5640	6.5	36 23.792	84.2	+3.8880+.0689	+0.040	-.0014 0	.18	.75	.26
3536	Br 1802	5.0	36 56.749	77.4	+2.2804-.0119	+0.017	-.0029 0	.08	.33	.13
3537	Br 1800	5.7	38 2.102	70.7	+3.0136+.0050	+0.007	-.0195 0	.07	.26	.12
3538	Pi 171	7.3	38 19.261	70.8	+3.1075+.0086	+0.007	-.0015 0	.18	.64	.31
3539	Pi 184	6.0	38 23.170	70.4	+1.8709-.0055	+0.012	+0.0095- 2	.09	.45	.20
3540	Pi 174	6.8	38 41.983	76.7	+3.1179+.0092	+0.007	-.0032 0	.10	.45	.18
3541	$\Lambda$ bo 310	6.5	39 1.723	75.0	+2.8365-.0029	+0.009	+0.0041 0	.10	.62	.24
3542	Br 1801	5.9	39 6.003	72.4	+3.2300+.0151	+0.007	+0.0005 0	.09	.42	.18
3543	Pi 179	7.4	39 42.301	67.7	+3.1404+.0104	+0.007	-.0024 0	.14	.58	.28
3544	Br 1803	4.3	40 0.211	78.8	+3.3959+.0277	+0.011	-.0368- 2	.08	.38	.14
3545	Pi 180	5.9	40 1.951	83.0	+3.3375+.0220	+0.009	-.0057 0	.11	.54	.18
3546	Br 1804	6.4	40 11.927	71.1	+3.2242+.0149	+0.007	-.0026 0	.09	.44	.19
3547	L 5664	4.7	40 19.446	84.2	+3.7704+.0550	+0.027	+0.0002 0	.13	.69	.22
3548	Br 1805	5.7	40 36.506	70.9	+3.1907+.0130	+0.007	-.0016 0	.08	.33	.15
3549	L 5676	5.3	41 6.505	81.1	+3.4814+.0314	+0.012	-.0018 0	.16	.75	.27
3550	L 5674	5.6	13 41 22.330	91.4	+3.7332+.0524	+0.024	-.0166- 2	.20	1.18	.29

3507  $\beta$  932.  $6^m 6^s - 7^m 0^s 0''.4$  89°, very slow; 12<sup>m</sup> 25'' 154°.3515 W. H.  $7^m 0^s 10''$  192°.3518  $\Sigma$  1768.  $8^m 5^s 1''.1$  132°; binary, 200 yrs.  $\pm$ .3513 Innes.  $6^m 2^s - 6^m 7^s 0''.4$ , rapid binary.3516  $\Sigma$  1763.  $7^m 0^s - 7^m 3^s 2''.7$  42°, fixed.3522  $\Sigma$  1769.  $10^m 2''.4$  27°;  $8^m 5^s 56''$  259°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10	Remarks.
	° ' "		" "	"	"	" " "	
3501	-29 3 2.98	80.3	-18.621+.188	+.20	-.001 0	.11 .49 .18	349 G Hydræ
3502	-28 10 39.12	88.2	-18.640+.187	+.20	-.021 0	.11 .87 .22	350 G Hydræ
3503	-14 50 55.50	67.7	-18.614+.181	+.18	-.011 0	.09 .45 .21	75 Virginis
3504	-9 38 59.59	70.3	-18.641+.179	+.17	-.044 0	.06 .33 .14	76 Virginis <i>h</i>
3505	-7 6 33.04	66.7	-18.590+.179	+.17	-.009 0	.12 .41 .22	77 Virginis
3506	+4 10 20.93	63.0	-18.583+.176	+.15	-.031 0	.08 .32 .17	78 Virginis <i>o</i>
3507	-12 42 5.99	75.9	-18.569+.184	+.18	-.027 0	.09 .51 .20	*
3508	-0 5 5.11	72.9	-18.500+.176	+.16	+.034- 1	.03 .15 .06	
3509	+55 51 39.08	58.5	-18.522+.137	+.07	-.010 0	.10 .40 .23	81 Ursæ Maj
3510	-4 53 12.84	69.8	-18.438+.182	+.16	+.072 0	.08 .33 .16	80 Virginis
3511	+37 41 40.46	78.9	-18.529+.158	+.10	-.019 0	.06 .31 .11	
3512	+49 31 37.85	63.1	-18.493+.145	+.09	+.015- 1	.07 .23 .13	24 Canum Ven
3513	-61 10 40.47	80.9	-18.639+.230	+.34	-.132+ 1	.13 .67 .23	235 G Centauri *
3514	-75 10 25.61	90.0	-18.536+.289	+.63	-.036 0	.12 .82 .20	49 G Chamæleontis
3515	-25 59 6.07	83.0	-18.463+.195	+.20	+.015 0	.08 .46 .15	351 G Hydræ *
3516	-7 21 42.37	63.8	-18.448+.187	+.17	-.007 0	.09 .36 .19	81 Virginis *
3517	-29 19 48.16	76.3	-18.399+.201	+.20	+.028 0	.12 .52 .21	353 G Hydræ
3518	+36 48 12.29	74.1	-18.404+.161	+.11	+.014 0	.06 .32 .13	25 Canum Ven *
3519	-29 3 0.25	76.8	-18.494+.201	+.20	-.078 0	.10 .47 .19	354 G Hydræ
3520	-64 4 7.12	90.7	-18.458+.247	+.37	-.045 0	.17 1.02 .26	243 G Centauri
3521	-52 57 28.78	75.3	-18.427+.226	+.28	-.027 0	.08 .37 .15	
3522	+39 41 27.24	81.0	-18.558+.158	+.10	-.163- 1	.07 .34 .12	*
3523	+51 13 24.66	58.3	-18.401+.147	+.08	-.007 0	.10 .39 .22	$\Sigma$ 1770. 6 <sup>m</sup> 9-8 <sup>m</sup> 1 2'' 121°
3524	-49 26 33.93	81.5	-18.397+.220	+.27	-.006- 1	.14 .84 .28	246 G Centauri
3525	-39 32 32.68	92.4	-18.466+.211	+.24	-.079 0	.15 1.07 .24	248 G Centauri
3526	+11 15 14.67	78.5	-18.373+.180	+.14	-.011 0	.10 .42 .17	*
3527	+71 45 3.68	81.7	-18.364+.091	+.04	-.007 0	.05 .39 .12	
3528	-54 3 9.26	82.4	-18.391+.232	+.29	-.054 0	.15 .64 .23	250 G Centauri <i>Q</i> *
3529	-58 16 51.16	86.0	-18.362+.240	+.32	-.026 0	.16 .77 .24	251 G Centauri
3530	+53 25 36.02	53.2	-18.271+.144	+.07	+.055- 1	.11 .34 .22	82 Ursæ Maj
3531	+20 27 40.80	62.5	-18.308+.177	+.13	+.009 0	.07 .35 .18	1 Bootis *
3532	+20 31 9.62	84.5	-18.295+.177	+.13	+.022 0	.11 .42 .15	
3533	+23 0 8.31	63.9	-18.340+.176	+.12	-.037 0	.10 .44 .23	2 Bootis
3534	-8 11 54.50	71.7	-18.265+.194	+.17	+.036 0	.04 .20 .09	82 Virginis <i>m</i>
3535	-56 15 46.19	80.2	-18.321+.239	+.31	-.021 0	.15 .60 .23	253 G Centauri
3536	+55 11 15.61	69.5	-18.293+.144	+.07	-.013 0	.07 .25 .12	83 Ursæ Maj
3537	+4 2 38.07	65.9	-18.319+.189	+.15	-.078- 1	.06 .22 .12	84 Virginis <i>o</i> *
3538	-3 46 12.62	64.6	-18.260+.196	+.16	-.030 0	.14 .43 .24	$\Sigma$ 1775. 10 <sup>m</sup> 28'' 335°
3539	+65 19 38.57	66.3	-18.241+.122	+.05	-.013+ 1	.08 .38 .18	
3540	-4 59 43.04	76.3	-18.242+.197	+.16	-.026 0	.09 .40 .16	
3541	+23 12 16.38	71.2	-18.247+.181	+.12	-.043 0	.08 .47 .20	
3542	-15 40 34.15	72.1	-18.207+.205	+.18	-.005 0	.09 .36 .16	83 Virginis
3543	-7 7 56.00	68.3	-18.175+.201	+.16	+.005 0	.12 .48 .23	
3544	-32 32 16.92	73.6	-18.321+.215	+.22	-.153- 2	.09 .37 .16	1 Centauri <i>i</i>
3545	-25 36 50.74	79.7	-18.187+.212	+.20	-.020 0	.09 .37 .14	357 G Hydræ
3546	-15 15 54.68	68.5	-18.198+.206	+.18	-.037 0	.08 .36 .17	85 Virginis
3547	-50 55 51.23	83.0	-18.189+.241	+.28	-.032 0	.11 .60 .20	266 G Centauri <i>M</i>
3548	-11 55 31.73	65.6	-18.146+.205	+.17	-.000 0	.07 .28 .14	86 Virginis *
3549	-35 45 3.86	70.4	-18.141+.224	+.22	-.014 0	.16 .69 .32	267 G Centauri <i>z</i>
3550	-49 49 13.99	88.9	-18.144+.240	+.28	-.026- 1	.15 .99 .26	269 G Centauri

3526  $\beta$  12. 6<sup>m</sup>5-6<sup>m</sup>5 < 1''; binary, 30 yrs.  $\pm$ .  
 3537  $\Sigma$  1777. 8<sup>m</sup>3'' 4 230°.

3528 Dunlop. 5<sup>m</sup>8-7<sup>m</sup>1 5'' 163°. 3531  $\Sigma$  1772. 9<sup>m</sup>5'' 141°. 3548  $\Sigma$  1780. 10<sup>m</sup>1'' 6 298°; 11<sup>m</sup>27'' 164°; CD: 11<sup>m</sup>5 2'' 274°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s	s	s			$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
3551	Grw <sub>40</sub> 1093	6.5	13	41	56.249	76.8	+3.1664+.0115	+.007	+.0008	0	.10	.62	.22
3552	Groomb 2044	6.0	41	58.817	70.7	+2.5521-.0086	+.012	-.0097+ 1	.12	.57	.25		
3553	Br 1806	5.9	41	58.879	66.4	+3.2556+.0163	+.007	+.0034	0	.10	.40	.21	
3554	Pi 194	6.5	42	0.043	80.0	+2.9707+.0040	+.007	-.0326+ 1	.10	.63	.22		
3555	Br 1808	6.2	42	4.731	74.5	+2.7876-.0037	+.009	-.0014	0	.10	.44	.18	
3556	Pi 192	7.3	42	11.783	74.0	+3.1293+.0099	+.007	-.0057	0	.14	.70	.29	
3557	Groomb 2053	6.3	42	13.271	72.8	+0.1989+.1235	-.263	-.0232+ 7	.09	.52	.21		
3558	$\tau$ Bootis	4.6	42	30.607	78.6	+2.8510-.0005	+.008	-.0340+ 1	.03	.20	.07		
3559	Groomb 2047	5.8	42	41.108	66.3	+2.5931-.0078	+.012	-.0097+ 1	.14	.72	.34		
3560	L 5680	7.1	42	49.581	92.4	+3.5061+.0324	+.013	+.0028	0	.13	.88	.20	
3561	Br 1812	5.8	42	51.792	65.7	+2.2450-.0104	+.015	-.0012	0	.12	.57	.28	
3562	L 5633	5.9	42	52.355	82.4	+7.2957+.7402	+2.043	+.0056+ 11	.11	1.44	.41		
3563	Br 1809	6.8	43	4.017	76.5	+3.1339+.0100	+.007	-.0030	0	.11	.46	.19	
3564	$\nu$ Centauri	3.5	43	30.281	82.8	+3.5798+.0380	+.015	-.0030	0	.10	.54	.18	
3565	$\mu$ Centauri	3.3	43	35.446	83.4	+3.5955+.0392	+.016	-.0020	0	.12	.57	.19	
3566	$\eta$ Ursæ Maj	1.8	43	36.072	69.7	+2.3691-.0100	+.014	-.0121+ 1	.02	.11	.05		
3567	Br 1807	4.3	43	39.010	84.8	+3.4619+.0295	+.011	-.0037	0	.11	.51	.17	
3568	Groomb 2051	6.9	43	51.825	78.8	+2.5382-.0088	+.013	+.0029	0	.12	.54	.20	
3569	L 5678	5.9	44	0.838	84.9	+4.5941+.1449	+.134	+.0029+ 1	.18	.84	.28		
3570	Pulk <sub>55</sub> 2063	5.9	44	8.004	89.5	+2.7087-.0056	+.010	-.0016	0	.13	.57	.18	
3571	Br 1811	5.2	44	26.200	74.5	+3.2524+.0164	+.007	-.0069	0	.06	.30	.12	
3572	$\nu$ Bootis	4.2	44	39.236	74.3	+2.8931+.0001	+.008	-.0070	0	.08	.32	.14	
3573	Br 1816	5.2	44	59.095	71.4	+2.8376-.0019	+.008	+.0012	0	.10	.46	.21	
3574	Pi 263	6.3	45	10.41	77.2	-1.911+.519		+.0219- 6	.06	.32	.12		
3575	L 5702	6.0	45	35.398	83.0	+3.6944+.0463	+.020	-.0020	0	.18	.94	.31	
3576	L 5700	5.5	45	38.117	86.3	+3.8365+.0586	+.029	-.0054	0	.16	.78	.25	
3577	Br 1814	4.6	46	3.153	77.0	+3.4488+.0281	+.010	-.0036	0	.10	.40	.17	
3578	Pi 217	6.3	46	3.816	76.8	+3.4471+.0281	+.011	-.0053	0	.15	.60	.25	
3579	L 5712	6.4	46	16.557	81.8	+3.4277+.0268	+.010	-.0056	0	.15	.93	.30	
3580	Pulk <sub>55</sub> 2066	6.9	46	39.746	83.8	+2.6502-.0064	+.010	+.0020	0	.10	.63	.19	
3581	Pulk <sub>55</sub> 2067	6.2	46	44.461	74.8	+2.6491-.0063	+.010	-.0005	0	.12	.78	.30	
3582	Pi 233	6.5	47	1.440	74.3	+2.0664-.0079	+.013	-.0032	0	.10	.44	.18	
3583	L 5696	5.8	47	12.493	92.2	+4.4979+.1287	+.106	-.0051	0	.20	1.16	.28	
3584	Grw <sub>64</sub> 1610	5.1	47	22.854	89.8	+2.6488-.0062	+.010	-.0019	0	.12	.66	.18	
3585	Pi 225	6.3	47	24.469	68.6	+2.9391+.0017	+.007	+.0023	0	.16	.69	.33	
3586	Br 1817	4.8	47	27.088	83.3	+3.4400+.0271	+.010	-.0014	0	.10	.51	.17	
3587	L 5726 <i>m</i>	5.8	47	41.949	85.1	+3.4913+.0308	+.011	-.0075	0	.16	.88	.28	
3588	Br 1818	6.0	48	26.221	59.4	+2.8667-.0005	+.008	-.0027	0	.14	.39	.24	
3589	Br 1823	4.8	48	30.689	76.7	+1.7528-.0004	+.007	+.0004	0	.05	.27	.10	
3590	Pi 230	6.5	48	36.893	81.1	+3.3846+.0241	+.009	-.0131	0	.12	.57	.21	
3591	Pi 235	6.1	48	38.193	71.7	+2.7232-.0042	+.009	-.0090	0	.15	.78	.33	
3592	L 5727	6.0	48	45.023	90.0	+3.8395+.0572	+.027	-.0052	0	.20	1.04	.28	
3593	$\zeta$ Centauri	2.6	49	17.974	75.1	+3.7195+.0471	+.019	-.0060	0	.09	.38	.16	
3594	Br 1819	5.4	49	33.991	83.3	+3.0775+.0077	+.007	-.0057	0	.07	.44	.14	
3595	Br 1820	6.5	49	43.418	73.8	+3.1431+.0108	+.007	-.0110	0	.10	.50	.20	
3596	$\eta$ Bootis	2.7	49	55.402	71.3	+2.8567-.0003	+.008	-.0045+ 1	.02	.14	.06		
3597	Br 1824	5.8	50	10.334	65.3	+2.2125-.0086	+.013	-.0023	0	.11	.48	.24	
3598	Groomb 2066	6.9	50	21.324	72.1	-0.2804+.1773	-.405	-.0167+ 8	.09	.51	.21		
3599	L 5733	4.7	50	24.530	86.0	+4.2927+.1008	+.068	-.0053	0	.15	.75	.23	
3600	Br 1822	6.1	13	51	22.161	79.5	+3.0533+.0065	+.006	-.0023	0	.11	.34	.15

3576 Rümik.  $7^m 5 18'' 289^\circ$ .3579  $\beta$  343.  $8^m 1'' 2 120^\circ$ , slow.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3551	- 9 12 30.29	73.4	-18.136+.206	+ .17	-.040 0	.08	.47	.19	87 Virginis
3552	+41 35 24.34	64.8	-18.153+.167	+ .10	-.058- 1	.10	.40	.21	
3553	-17 21 33.54	68.8	-18.138+.212	+ .18	-.043 0	.11	.41	.20	
3554	+ 6 51 11.87	75.5	-18.209+.192	+ .15	-.115- 2	.09	.49	.19	3 Bootis
3555	+26 12 13.74	71.4	-18.158+.183	+ .12	-.067 0	.08	.36	.16	
3556	- 6 12 19.88	71.6	-18.101+.204	+ .16	-.014 0	.12	.52	.23	O $\Sigma$ 270. 11 <sup>m</sup> 8".5 356°, slow
3557	+78 33 54.34	68.6	-18.046+.019	+ .13	+.040- 1	.07	.39	.18	
3558	+17 57 18.07	76.4	-18.049+.185	+ .13	+.026- 2	.04	.20	.08	
3559	+39 2 33.57	65.0	-18.101+.171	+ .10	-.033- 1	.12	.55	.28	270 G Centauri
3560	-36 37 43.15	83.8	-18.067+.230	+ .22	-.004 0	.16	.89	.28	
3561	+54 55 56.42	57.7	-18.072+.150	+ .07	-.011 0	.11	.41	.24	84 Ursæ Maj
3562	-82 10 14.99	82.9	-18.113+.470	+ 1.62	-.052 0	.10	1.55	.43	50 G Chamæleontis
3563	- 6 20 18.09	74.4	-18.082+.206	+ .16	-.028 0	.09	.36	.16	88 Virginis ( <i>n</i> )
3564	-41 11 21.62	78.2	-18.062+.235	+ .24	-.025 0	.08	.41	.16	274 G Centauri <i>g</i>
3565	-41 58 31.70	77.3	-18.052+.236	+ .24	-.018 0	.09	.39	.16	
3566	+49 48 44.24	64.8	-18.054+.158	+ .08	-.021- 1	.02	.10	.05	
3567	-33 57 4.80	77.2	-18.086+.228	+ .22	-.055 0	.11	.44	.18	1 G Circini
3568	+42 32 50.10	75.7	-18.091+.170	+ .09	-.068 0	.10	.43	.18	
3569	-68 54 17.43	86.3	-18.029+.302	+ .48	-.012 0	.15	.87	.25	89 Virginis
3570	+31 41 13.10	83.4	-17.975+.181	+ .11	+.038 0	.12	.47	.17	
3571	-17 38 10.02	74.0	-18.044+.216	+ .18	-.043 0	.06	.32	.13	6 Bootis <i>e</i>
3572	+16 17 37.74	72.2	-17.960+.193	+ .13	+.033 0	.06	.25	.11	
3573	+21 45 37.47	70.9	-17.977+.191	+ .13	+.003 0	.10	.42	.19	Groomb 2063
3574	+83 15 15.34	80.1	-18.020-.114		-.047+ 1	.06	.35	.12	
3575	-46 24 10.12	77.2	-17.995+.247	+ .26	-.039 0	.15	.67	.27	278 G Centauri
3576	-52 18 56.11	81.4	-18.000+.256	+ .29	-.045 0	.12	.53	.19	277 G Centauri <i>N</i> *
3577	-32 29 53.41	69.5	-17.977+.232	+ .22	-.039 0	.11	.42	.20	280 G Centauri <i>k</i>
3578	-32 29 56.56	70.9	-17.975+.232	+ .22	-.037 0	.15	.58	.27	
3579	-31 7 23.20	73.8	-17.988+.231	+ .21	-.058 0	.14	.71	.29	282 G Centauri *
3580	+35 16 3.86	80.3	-17.937+.181	+ .10	-.022 0	.09	.53	.18	
3581	+35 9 38.89	74.0	-17.984+.181	+ .10	-.072 0	.10	.73	.28	2 G Circini
3582	+59 2 3.45	73.1	-17.897+.143	+ .06	+.003 0	.09	.39	.17	
3583	-67 9 32.02	90.4	-17.945+.303	+ .45	-.052 0	.17	1.00	.26	
3584	+34 56 21.98	87.4	-17.923+.182	+ .10	-.037 0	.12	.61	.18	284 G Centauri <i>h</i> *
3585	+12 39 33.38	61.7	-17.902+.201	+ .13	-.017 0	.14	.59	.32	
3586	-31 26 1.70	74.1	-17.905+.234	+ .21	-.021 0	.10	.42	.18	286 G Centauri <i>y</i> *
3587	-35 10 14.01	73.0	-17.910+.238	+ .22	-.036 0	.16	.67	.30	
3588	+18 25 31.91	62.6	-17.857+.198	+ .13	-.013 0	.13	.42	.24	7 Bootis
3589	+65 13 2.05	73.4	-17.845+.124	+ .05	-.003 0	.05	.22	.09	10 Draconis <i>i</i>
3590	-28 4 31.64	81.3	-17.914+.232	+ .21	-.077- 1	.11	.49	.18	361 G Hydræ
3591	+29 8 24.22	66.0	-17.822+.188	+ .11	+.014- 1	.14	.67	.33	288 G Centauri
3592	-51 40 7.05	82.3	-17.862+.263	+ .29	-.032 0	.14	.65	.23	
3593	-46 47 45.79	74.7	-17.863+.256	+ .27	-.053 0	.08	.35	.15	
3594	- 1 0 40.13	75.2	-17.829+.214	+ .16	-.030 0	.07	.32	.13	90 Virginis <i>p</i>
3595	- 7 34 0.06	76.4	-17.824+.218	+ .16	-.030- 1	.09	.49	.19	$\Sigma$ 1788. 8 <sup>m</sup> 2".7 78°, slow
3596	+18 53 55.90	70.2	-18.152+.199	+ .13	-.367 0	.02	.13	.06	86 Ursæ Maj
3597	+54 13 13.03	57.8	-17.791+.156	+ .07	-.016 0	.09	.33	.20	
3598	+79 29 21.31	72.1	-17.767-.013	+ .20	.000- 1	.09	.41	.18	92 Virginis
3599	-63 11 47.31	87.2	-17.817+.297	+ .39	-.052 0	.13	.75	.22	
3600	+ 1 32 22.84	75.2	-17.714+.215	+ .15	+.012 0	.09	.30	.14	

3586 W. H. 8<sup>m</sup> 14" 185°.3587 Howe. 6<sup>m</sup> 5-6<sup>m</sup> 7 1" 87°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m	s	s	s		s	s	"	"	"
3601	Br 1826	5.2	13	52	0.244	74.4	+2.7413-	.0036	+ .009	+ .0023	0	.08	.34	.15
3602	$\phi$ Centauri	4.0		52	11.445	78.5	+3.6281+	.0389	+ .014	- .0024	0	.11	.48	.19
3603	$\nu$ Centauri	4.0		52	30.055	83.2	+3.6844+	.0430	+ .016	- .0031	0	.10	.51	.17
3604	Br 1825	5.3		52	54.396	82.1	+3.3566+	.0214	+ .008	- .0036	0	.07	.36	.12
3605	Pi 264	6.3		53	50.262	72.8	+2.8960+	.0011	+ .007	- .0040	0	.12	.63	.26
3606	Br 1828	5.8		53	57.802	76.4	+2.8121-	.0014	+ .007	- .0003	0	.10	.32	.15
3607	Br 1827	6.0		54	24.019	75.3	+3.3490+	.0214	+ .007	- .0152	0	.11	.45	.19
3608	Pi 269	6.6		54	38.331	70.4	+3.1052+	.0088	+ .006	- .0014	0	.14	.52	.25
3609	Pi 270	7.0		54	48.367	72.9	+3.1571+	.0111	+ .006	- .0017	0	.12	.48	.22
3610	L 5782	4.4		55	29.079	79.7	+3.7191+	.0444	+ .016	- .0012	0	.16	.80	.29
3611	$\theta$ Apodis	Var.		55	34.481	80.2	+5.6981+	.2975	+ .416	- .0261-	7	.08	.64	.21
3612	$\tau$ Virginis	4.3		56	33.401	74.2	+3.0506+	.0065	+ .006	+ .0013	0	.03	.18	.07
3613	Br 1830	6.3		56	38.421	84.4	+2.7220-	.0031	+ .009	- .0060	0	.04	.27	.08
3614	Pi 274	5.9		56	41.438	79.5	+3.4004+	.0234	+ .008	- .0031	0	.11	.54	.20
3615	$\beta$ Centauri	0.5		56	45.821	71.1	+4.1929+	.0848	+ .047	- .0035	0	.05	.24	.11
3616	Pi 286	6.7		59	2.073	74.9	+3.2412+	.0148	+ .006	- .0026	0	.10	.48	.20
3617	Pi 287	6.9		59	3.673	73.2	+3.1721+	.0117	+ .006	- .0027	0	.12	.50	.22
3618	L 5797	6.5		59	4.633	88.8	+3.9835+	.0644	+ .029	- .0085-	1	.15	.75	.22
3619	Pi 296	6.4		59	16.435	85.2	+2.2353-	.0070	+ .011	- .0030	0	.08	.44	.13
3620	Pi 306	6.7		59	38.329	76.7	+1.3171+	.0179	- .017	- .0046+	1	.09	.45	.18
3621	$\chi$ Centauri	4.6	13	59	56.368	85.4	+3.6453+	.0378	+ .012	- .0016	0	.10	.50	.16
3622	$\pi$ Hydræ	3.4	14	0	40.512	80.9	+3.4059+	.0230	+ .007	+ .0031+	1	.06	.30	.11
3623	$\theta$ Centauri	2.0		0	47.745	79.3	+3.5150+	.0318	+ .009	- .0436	0	.07	.32	.12
3624	Br 1833	6.9		0	59.962	74.9	+3.1714+	.0115	+ .006	- .0005	0	.07	.33	.13
3625	Br 1834	5.7		1	25.410	74.3	+3.1676+	.0117	+ .006	- .0097	0	.07	.30	.12
3626	$\alpha$ Draconis	3.5		1	40.894	73.1	+1.6227+	.0050	.000	- .0081+	1	.03	.13	.05
3627	L 5825	6.9		3	0.820	86.3	+3.9117+	.0563	+ .022	- .0055	0	.20	.82	.28
3628	L 5827	4.8		3	15.323	86.8	+3.9624+	.0611	+ .025	- .0172-	1	.20	.86	.28
3629	Br 1835	6.9		3	40.830	72.8	+3.1914+	.0123	+ .006	- .0003	0	.10	.39	.18
3630	Pi 316	5.6		3	55.886	67.3	+2.4007-	.0062	+ .011	+ .0004	0	.09	.56	.26
3631	Br 1838	5.6		4	33.200	60.4	+2.2456-	.0061	+ .010	- .0052	0	.10	.44	.24
3632	Pi 317	5.4		5	22.715	75.5	+3.2705+	.0157	+ .006	+ .0011	0	.06	.36	.14
3633	$\eta$ Apodis	5.0		5	39.336	80.7	+7.2354+	.5751	+ 1.128	- .0170+	1	.11	.81	.26
3634	Groomb 2082	6.7		5	40.293	85.4	+1.8597-	.0010	+ .006	- .0151+	2	.09	.54	.16
3635	Br 1839	4.9		5	50.304	85.5	+2.7370-	.0017	+ .008	- .0017	0	.04	.32	.09
3636	Pi 27	6.5		6	8.999	77.8	+0.4370+	.0770	.119	- .0142+	4	.09	.48	.18
3637	L 5840	5.6		6	32.442	85.2	+4.0075+	.0619	+ .024	- .0017	0	.18	.81	.27
3638	Br 1837	5.4		7	2.155	74.9	+3.4263+	.0233	+ .007	- .0012	0	.11	.42	.18
3639	Pi 12	5.1		7	12.040	67.4	+3.0335+	.0065	+ .006	- .0034	0	.09	.42	.20
3640	Br 1841	7.4		7	13.621	65.0	+3.1921+	.0122	+ .005	+ .0028	0	.14	.52	.27
3641	Br 1840	6.5		7	30.076	79.0	+3.4190+	.0228	+ .006	+ .0003	0	.11	.57	.21
3642	$\kappa$ Virginis	4.2		7	33.613	72.3	+3.1949+	.0123	+ .005	+ .0005	0	.03	.18	.08
3643	L 5850	5.3		7	59.060	86.8	+4.1430+	.0725	+ .031	- .0040	0	.18	.87	.27
3644	Paris 17453	6.0		8	31.271	95.6	+3.0904+	.0080	+ .006	+ .0134	0	.12	.72	.16
3645	L 5860	6.0		8	31.978	88.2	+3.6856+	.0387	+ .011	- .0128-	1	.18	1.29	.33
3646	Brisb 4811	6.0		8	44.438	89.4	+4.6780+	.1240	+ .079	- .0024	0	.15	1.04	.26
3647	Br 1843	6.6		9	8.736	69.3	+3.1203+	.0101	+ .006	- .0206	0	.09	.36	.17
3648	L 5869	6.2		9	13.727	76.7	+3.4627+	.0250	+ .007	- .0026	0	.10	.66	.24
3649	Br 1859	5.1		9	13.996	78.1	-0.3021+	.1510	- .288	- .0080+	1	.04	.20	.07
3650	Br 1844	5.7	14	9	16.586	71.1	+2.8839+	.0026	+ .006	- .0178	0	.08	.27	.13

## CATALOGUE OF 6188 STARS FOR 1900

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No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3601	+27 58 56.27	71.9	-17.757+.195	+ .11	-.057 0	.08	.33	.15	9 Bootis
3602	-41 36 44.11	79.9	-17.712+.256	+ .24	-.020 0	.10	.47	.17	
3603	-44 18 55.85	80.6	-17.712+.260	+ .25	-.032 0	.09	.40	.15	297 G Centauri $v^1$
3604	-24 29 2.79	84.2	-17.704+.238	+ .20	-.041 0	.07	.40	.13	47 Hydræ
3605	+15 8 14.99	71.7	-17.689+.208	+ .13	-.065 0	.09	.49	.21	
3606	+22 11 2.50	72.5	-17.670+.203	+ .12	-.051 0	.09	.30	.14	10 Bootis
3607	-24 31 20.41	77.8	-17.712+.240	+ .20	-.111-1	.11	.43	.18	48 Hydræ
3608	-3 3 45.73	76.6	-17.660+.224	+ .16	-.069 0	.12	.50	.21	
3609	-7 40 30.66	74.4	-17.643+.228	+ .17	-.059 0	.11	.44	.19	
3610	-45 7 8.82	72.9	-17.594+.269	+ .26	-.039 0	.12	.54	.23	303 G Centauri $v^2$
3611	-76 18 50.77	80.7	-17.591+.407	+ .84	-.040-2	.07	.63	.20	5 <sup>M</sup> 5 to 6 <sup>M</sup> 5
3612	+2 1 42.10	75.4	-17.535+.224	+ .15	-.025 0	.03	.21	.08	
3613	+27 52 10.04	79.6	-17.503+.200	+ .10	+ .003 0	.05	.24	.09	11 Bootis
3614	-26 56 48.92	79.2	-17.521+.249	+ .20	-.017 0	.11	.51	.19	367 G Hydræ
3615	-59 53 26.09	73.8	-17.533+.305	+ .37	-.032 0	.05	.25	.11	
3616	-14 29 28.09	77.1	-17.432+.242	+ .18	-.029 0	.10	.49	.19	
3617	-8 46 38.28	76.4	-17.409+.237	+ .17	-.007 0	.10	.46	.18	
3618	-54 11 22.35	79.3	-17.448+.295	+ .31	-.047-1	.13	.53	.21	309 G Centauri
3619	+51 27 9.33	76.8	-17.407+.169	+ .07	-.014 0	.08	.32	.13	
3620	+69 9 36.23	68.2	-17.375+.103	+ .05	+ .002 0	.08	.37	.17	
3621	-40 42 2.11	79.4	-17.398+.273	+ .24	-.034 0	.09	.37	.14	
3622	-26 12 2.46	82.7	-17.491+.257	+ .20	-.160 0	.06	.33	.11	
3623	-35 52 40.98	74.8	-17.854+.262	+ .23	-.528-3	.07	.32	.13	
3624	-8 24 52.30	73.0	-17.308+.240	+ .17	+ .009 0	.07	.33	.14	94 Virginis
3625	-8 50 11.34	72.7	-17.294+.240	+ .17	+ .004-1	.06	.26	.11	95 Virginis
3626	+64 51 13.52	70.1	-17.272+.126	+ .04	+ .015-1	.03	.13	.06	
3627	-51 1 47.81	80.7	-17.253+.298	+ .30	-.025 0	.15	.60	.23	320 G Centauri*
3628	-52 57 44.75	81.0	-17.325+.302	+ .31	-.108-1	.15	.61	.23	321 G Centauri
3629	-9 51 39.18	71.9	-17.182+.246	+ .17	+ .016 0	.09	.33	.15	96 Virginis
3630	+44 19 47.93	65.6	-17.224+.187	+ .08	-.037 0	.08	.42	.20	
3631	+49 55 49.68	54.8	-17.112+.176	+ .07	+ .046 0	.10	.32	.20	13 Bootis
3632	-15 49 47.14	73.9	-17.143+.255	+ .18	-.022 0	.06	.36	.14	
3633	-80 32 19.92	80.1	-17.186+.556	+ 1.51	-.078-1	.08	.69	.22	
3634	+59 48 40.76	83.3	-17.134+.148	+ .05	-.026-1	.08	.42	.14	
3635	+25 33 54.84	82.0	-17.172+.215	+ .11	-.072 0	.04	.30	.10	12 Bootis $d$
3636	+75 4 2.46	70.4	-17.078+.039	+ .10	+ .008-1	.07	.34	.15	Groomb 2085. 3 Ursæ Min
3637	-53 11 44.76	78.9	-17.105+.314	+ .31	-.037 0	.14	.58	.23	324 G Centauri
3638	-26 47 26.42	78.8	-17.100+.270	+ .20	-.055 0	.10	.40	.16	50 Hydræ
3639	+2 52 48.25	69.3	-17.069+.240	+ .14	-.031 0	.10	.40	.19	
3640	-9 25 47.91	66.7	-17.065+.252	+ .17	-.029 0	.11	.42	.21	97 Virginis
3641	-26 8 33.08	80.3	-17.025+.270	+ .20	-.001 0	.11	.64	.22	371 G Hydræ
3642	-9 48 30.13	73.8	-16.891+.253	+ .17	+ .130 0	.03	.13	.06	
3643	-56 37 4.14	78.6	-17.015+.327	+ .34	-.014 0	.14	.57	.23	328 G Centauri
3644	-0 22 24.76	97.6	-17.109+.248	+ .15	-.133+1	.10	.94	.15	
3645	-41 22 10.61	87.7	-17.020+.292	+ .25	-.044-1	.15	1.20	.31	330 G Centauri
3646	-66 7 17.67	86.2	-16.975+.370	+ .48	-.009 0	.12	.73	.21	8 G Circini
3647	-5 28 58.25	70.1	-16.868+.248	+ .16	+ .079-2	.08	.33	.15	
3648	-28 48 53.39	75.6	-16.982+.277	+ .21	-.038 0	.12	.71	.27	372 G Hydræ
3649	+78 1 2.45	80.3	-16.917-.017	+ .20	+ .026-1	.05	.24	.08	4 Ursæ Min
3650	+13 25 41.65	71.5	-17.003+.231	+ .13	-.062-1	.07	.28	.13	14 Bootis



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
3651	R Centauri	Var.	14	9	21.794	93.5	+4.2813+.0836	+0.039	-.0023 0	.20	1.34	.29
3652	$\kappa^1$ Bootis	6.2		9	52.849	76.6	+2.1517-.0048	+0.010	+0.0062 0	.16	.82	.32
3653	Pi 22	5.7		9	53.351	73.3	+3.2990+.0169	+0.005	-.0028 0	.08	.45	.18
3654	$\kappa^2$ Bootis	4.9		9	54.031	74.7	+2.1524-.0049	+0.010	+0.0071-1	.09	.38	.16
3655	Br 1845	5.5		9	57.030	65.8	+2.9367+.0036	+0.006	-.0017+1	.12	.51	.26
3656	Groomb 2091	5.5	10	12.414		64.0	+1.1015+.0284	-.030	-.0056+3	.11	.52	.26
3657	$\epsilon$ Apodis	5.3	10	16.470		75.2	+7.0037+.4972	+0.852	-.0068 0	.14	.68	.27
3658	Groomb 2089	6.5	10	21.636		66.7	+2.4241-.0049	+0.009	-.0004+1	.14	.66	.32
3659	L 5872	6.9	10	23.115		79.7	+3.5375+.0287	+0.007	+0.0016 0	.16	1.00	.35
3660	$\iota$ Virginis	4.1	10	46.174		79.4	+3.1409+.0106	+0.005	-.0012+2	.04	.20	.07
3661	$\delta$ Octantis	4.1	10	51.70		70.8	+9.087+.1.043		-.052-32	.06	.36	.15
3662	$\alpha$ Bootis	0.0	11	6.023		66.3	+2.7352+.0025	+0.006	-.0781+11	.02	.11	.05
3663	Br 1848	6.2	11	22.060		73.6	+2.8200+.0006	+0.006	+0.0026 0	.12	.30	.16
3664	L 5883	6.8	12	28.630		84.4	+3.5357+.0286	+0.007	-.0065 0	.12	.70	.22
3665	L 5875	5.4	12	31.233		92.0	+4.3570+.0898	+0.043	-.0228-2	.20	1.17	.29
3666	$\lambda$ Bootis	4.2	12	34.949		77.6	+2.2831-.0049	+0.009	-.0179 0	.04	.18	.07
3667	$\iota$ Bootis	4.8	12	37.486		75.0	+2.1268-.0042	+0.009	-.0157+1	.04	.21	.09
3668	$\iota$ Lupi	3.8	13	0.003		83.4	+3.8196+.0454	+0.013	-.0009 0	.12	.63	.21
3669	Cape 2538	6.0	13	6.369		90.2	+3.3102+.0173	+0.005	-.0040 0	.10	.68	.17
3670	$\nu$ Centauri	4.4	13	20.250		88.0	+4.1552+.0703	+0.027	-.0029 0	.14	.84	.23
3671	L 5892	6.1	13	20.279		82.8	+3.3917+.0216	+0.006	-.0288-3	.14	1.06	.32
3672	$\lambda$ Virginis	4.6	13	41.845		70.7	+3.2396+.0141	+0.005	-.0015 0	.04	.22	.10
3673	Pi 45	5.0	13	46.138		73.2	+2.5365-.0037	+0.008	-.0013 0	.11	.66	.27
3674	Br 1856	6.4	13	47.834		75.0	+2.1348-.0041	+0.009	-.0024 0	.12	.36	.17
3675	Dpt 1608 <i>m</i>	8.8	13	51.059		90.0	+3.0131+.0061	+0.005	-.0031 0	.11	.56	.16
3676	Stgo 1187	5.8	13	52.715		87.8	+3.7472+.0406	+0.011	-.0028 0	.18	1.41	.36
3677	L 5891	5.0	14	19.517		83.6	+3.8056+.0441	+0.012	+0.0011+1	.18	.99	.32
3678	$\nu$ Virginis	5.2	14	23.255		76.1	+3.0876+.0087	+0.005	-.0080 0	.10	.42	.17
3679	Br 1853	5.5	14	25.889		76.4	+2.9026+.0027	+0.006	+0.0074 0	.10	.34	.15
3680	$\psi$ Centauri	4.2	14	28.389		84.8	+3.6327+.0336	+0.008	-.0059 0	.10	.51	.16
3681	Br 1855	5.1	15	1.247		73.2	+2.8384+.0016	+0.006	-.0102 0	.08	.28	.13
3682	L 5893	5.2	15	27.213		88.0	+4.2579+.0777	+0.031	-.0063-1	.18	.92	.27
3683	Brisb 4865	7.0	15	27.631		94.5	+4.2604+.0777	+0.031	-.0040-1	.21	1.18	.28
3684	Groomb 2100	6.3	15	41.391		66.3	+2.4647-.0041	+0.008	+0.0018 0	.12	.63	.30
3685	L 5907	5.9	16	19.979		83.7	+3.5804+.0301	+0.007	-.0034 0	.14	.86	.27
3686	L 5890	5.8	16	48.550		82.6	+4.9054+.1396	+0.089	-.0024 0	.13	.70	.23
3687	Br 1858	7.1	16	49.267		71.1	+3.0879+.0086	+0.005	-.0045 0	.10	.40	.18
3688	L 5911	4.6	16	52.439		87.3	+3.6797+.0356	+0.008	-.0024 0	.10	.54	.16
3689	Br 1857	5.0	17	19.934		75.1	+3.4466+.0237	+0.006	-.0147 0	.10	.42	.18
3690	Groomb 2105	7.1	17	56.720		83.7	+1.1718+.0234	-.022	-.0048+1	.08	.50	.15
3691	Br 1860	6.6	18	2.687		76.4	+3.2221+.0133	+0.004	-.0010 0	.06	.33	.13
3692	Pi 69	5.2	18	27.649		59.5	+2.9488+.0045	+0.005	-.0046 0	.11	.52	.29
3693	L 5920	7.5	18	30.545		94.3	+3.7128+.0373	+0.008	-.0036 0	.15	1.20	.24
3694	Pi 71	8.0	19	1.864		85.8	+2.9849+.0054	+0.005	-.0036 0	.11	.52	.17
3695	Pi 68	5.5	19	6.151		78.4	+3.4119+.0214	+0.005	-.0055 0	.09	.46	.17
3696	L 5908	5.9	19	7.754		90.1	+4.7301+.1186	+0.064	-.0051 0	.20	1.14	.30
3697	Pi 73	5.2	19	12.721		67.9	+2.9830+.0054	+0.005	-.0055 0	.11	.57	.26
3698	Br 1861	6.8	19	18.287		73.8	+3.2190+.0132	+0.004	-.0047 0	.12	.51	.22
3699	$\tau^1$ Lupi	4.7	19	42.978		80.9	+3.8305+.0440	+0.011	-.0009 0	.10	.51	.18
3700	$\tau^2$ Lupi	4.4	14	19 44.840		86.0	+3.8361+.0442	+0.011	+0.0003 0	.10	.54	.16

3671  $\beta$  1246. 13<sup>m</sup> 3" 189°.3676 h 4672. 10<sup>m</sup> 4" 304°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3651	-59 26 51.78	93.4	-16.953+.341	+ .38	-.016 0	.18	1.16	.26	6 <sup>m</sup> to 10 <sup>m</sup> . 12 <sup>m</sup> 28" 218°
3652	+52 15 19.67	68.1	-16.945+.176	+ .06	-.032 0	.13	.63	.29	Σ 1821. See No. 3654
3653	-17 44 3.39	74.4	-16.930+.265	+ .18	-.018 0	.08	.46	.18	
3654	+52 15 26.97	63.0	-16.927+.176	+ .06	-.015+ 1	.07	.26	.14	Σ 1821. 6 <sup>m</sup> 2 13" 237°, v. slow
3655	+10 34 16.80	63.6	-17.080+.237	+ .13	-.170 0	.12	.47	.25	15 Bootis
3656	+69 54 6.37	58.9	-16.960+.093	+ .05	-.062 0	.08	.40	.22	
3657	-79 38 50.48	77.9	-16.925+.556	+ 1.37	-.031 0	.12	.63	.24	
3658	+41 59 16.78	62.2	-17.012+.198	+ .08	-.122 0	.12	.50	.27	
3659	-32 46 34.83	72.7	-16.903+.285	+ .22	-.014 0	.16	.87	.36	333 G Centauri
3660	-5 31 24.44	74.7	-17.298+.254	+ .16	-.427 0	.04	.22	.09	
3661	-83 12 35.12	72.3	-16.880+.719		-.013- 4	.06	.34	.14	
3662	+19 42 10.43	64.8	-18.858+.217	+ .11	-2.003-6	.02	.10	.05	Arcturus
3663	+19 22 38.22	74.0	-16.884+.230	+ .11	-.041 0	.10	.35	.16	
3664	-32 45 25.25	80.7	-16.830+.288	+ .22	-.040 0	.14	.77	.27	335 G Centauri
3665	-60 48 33.05	86.8	-16.893+.352	+ .40	-.105- 2	.16	.82	.25	334 G Centauri
3666	+46 32 50.57	73.6	-16.634+.188	+ .07	+ .151- 1	.04	.17	.07	
3667	+51 49 42.20	69.8	-16.697+.175	+ .06	+ .086- 1	.04	.18	.08	Σ 3124. 7 <sup>m</sup> 5 38" 33°
3668	-45 35 47.72	78.0	-16.773+.312	+ .27	-.008 0	.09	.41	.16	
3669	-18 15 10.98	87.3	-16.801+.272	+ .18	-.041 0	.10	.71	.19	
3670	-55 55 32.90	83.0	-16.770+.340	+ .34	-.021 0	.11	.56	.19	
3671	-25 21 49.85	79.9	-16.380+.276	+ .20	+ .369- 2	.14	1.16	.38	374 G Hydræ *
3672	-12 54 39.13	67.6	-16.708+.267	+ .17	+ .023 0	.04	.20	.10	
3673	+35 58 14.33	68.8	-16.732+.211	+ .09	-.004 0	.10	.52	.24	(Bootis A)
3674	+51 46 10.32	70.4	-16.738+.178	+ .06	-.011 0	.11	.33	.17	
3675	+ 4 21 15.33	82.8	-16.779+.249	+ .14	-.055 0	.10	.40	.15	Σ 1832. 9 <sup>m</sup> 5-9 <sup>m</sup> 5 0" 7 132°
3676	-42 35 57.32	87.6	-16.778+.308	+ .26	-.055 0	.14	1.38	.34	L (5887) *
3677	-44 43 31.59	76.0	-16.791+.314	+ .27	-.090 0	.13	.64	.25	3 G Lupi
3678	- 1 48 12.03	73.4	-16.777+.256	+ .15	-.079- 1	.08	.33	.15	
3679	+13 27 56.02	72.4	-16.734+.242	+ .12	-.038+ 1	.10	.31	.15	18 Bootis
3680	-37 25 31.55	78.5	-16.710+.300	+ .24	-.016 0	.11	.46	.18	
3681	+16 45 53.44	71.8	-16.617+.236	+ .12	+ .050- 1	.06	.27	.12	20 Bootis
3682	-58 0 7.60	83.0	-16.640+.352	+ .37	+ .006 0	.14	.65	.22	} 340 G Centauri Dunlop. 9 <sup>m</sup> 5 161°
3683	-58 0 16.88	91.3	-16.638+.353	+ .37	+ .008 0	.17	.92	.24	
3684	+39 15 12.37	64.2	-16.656+.208	+ .08	-.021 0	.11	.52	.26	
3685	-34 19 47.18	73.6	-16.600+.299	+ .23	+ .003 0	.14	.63	.27	341 G Centauri
3686	-67 44 25.56	83.7	-16.602+.409	+ .53	-.022 0	.12	.61	.20	10 G Circini
3687	- 1 31 51.72	71.4	-16.592+.260	+ .14	-.013 0	.09	.35	.16	103 Virginis (v <sup>2</sup> )
3688	-39 3 18.27	81.2	-16.617+.308	+ .24	-.040 0	.10	.44	.16	342 G Centauri a
3689	-27 17 42.10	78.5	-16.677+.289	+ .20	-.123- 1	.10	.40	.16	51 Hydræ (k)
3690	+68 14 23.35	79.2	-16.520+.103	+ .05	+ .004 0	.07	.32	.12	Σ 1840. 9 <sup>m</sup> 27" 223°
3691	-11 15 26.52	72.5	-16.583+.273	+ .16	-.064 0	.06	.30	.13	2 Libræ
3692	+ 8 54 5.35	56.4	-16.523+.251	+ .13	-.025 0	.10	.43	.25	Σ 1835" 6 <sup>m</sup> 5 6" 5 190° *
3693	-40 18 3.04	93.0	-16.538+.314	+ .25	-.042 0	.12	.97	.20	344 G Centauri
3694	+ 6 16 35.14	88.4	-16.457+.255	+ .14	+ .013 0	.12	.53	.17	
3695	-24 21 9.08	77.8	-16.497+.290	+ .20	-.031 0	.08	.36	.14	3 G Libræ
3696	-65 22 10.15	87.2	-16.490+.400	+ .49	-.025 0	.15	.90	.25	13 G Circini
3697	+ 6 16 25.11	62.1	-16.461+.255	+ .14	.000 0	.12	.58	.30	
3698	-11 12 56.77	66.1	-16.499+.274	+ .16	-.043 0	.10	.33	.18	Σ 1837. 8 <sup>m</sup> 7 1" 302°, slow
3699	-44 46 8.78	78.2	-16.465+.327	+ .27	-.029 0	.09	.40	.15	L 5928
3700	-44 55 38.08	82.8	-16.454+.327	+ .27	-.020 0	.09	.42	.14	L 5927

3692. The comp. is a rapid binary, &lt; 0".5.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and $100 \Delta \mu$		Prob. Errors.		
		M	h	m	s		s	s		s	s	"	"	"
3701	Pi 78	6.8	14	20	1.333	83.3	+3.4504+	.0230	+ .005	-.0025	0	.14	.80	.25
3702	L 5934	6.0	20	45.302	87.9	87.9	+3.8477+	.0454	+ .012	-.0133	0	.18	1.02	.29
3703	Groomb 2109	6.5	21	24.319	60.6	60.6	+2.4495-	.0034	+ .008	-.0001	0	.13	.75	.39
3704	$\theta$ Bootis	4.2	21	47.559	75.8	75.8	+2.0430-	.0011	+ .008	-.0260+	7	.03	.15	.06
3705	Br 1864	5.6	21	48.268	78.4	78.4	+2.7900+	.0010	+ .006	-.0052	0	.05	.30	.11
3706	Br 1863	6.4	22	9.372	65.5	65.5	+3.1449+	.0106	+ .005	-.0046	0	.12	.44	.23
3707	Br 1862	5.1	22	18.905	75.3	75.3	+3.5022+	.0251	+ .006	-.0019	0	.09	.40	.16
3708	Pi 85	7.0	22	19.880	75.9	75.9	+3.2447+	.0141	+ .004	-.0059	0	.15	.72	.29
3709	Brisb 4918	5.9	22	55.245	82.6	82.6	+4.9392+	.1358	+ .077	+ .0039+	3	.16	.78	.27
3710	$\phi$ Virginis	5.0	23	2.948	78.2	78.2	+3.0877+	.0088	+ .005	-.0089	0	.04	.24	.09
3711	Br 1866	5.9	23	25.173	72.1	72.1	+3.1593+	.0109	+ .005	-.0016	0	.09	.40	.18
3712	L 5950	5.6	23	41.171	83.6	83.6	+3.9719+	.0520	+ .013	-.0047	0	.18	.75	.27
3713	L 5951	5.8	23	41.482	84.7	84.7	+3.8489+	.0440	+ .010	-.0041	0	.16	.75	.25
3714	Pi 95	7.2	24	47.750	72.7	72.7	+3.1181+	.0097	+ .005	-.0067	0	.16	.64	.29
3715	Br 1868	5.8	25	9.090	66.9	66.9	+2.0879-	.0018	+ .007	-.0320+	4	.07	.24	.12
3716	$\sigma$ Lupi	4.6	25	52.649	83.2	83.2	+4.0141+	.0539	+ .013	-.0054	0	.12	.52	.18
3717	$\rho$ Bootis	3.8	27	31.221	77.4	77.4	+2.5862-	.0015	+ .007	-.0078	0	.03	.18	.06
3718	Br 1873	4.5	27	43.900	69.9	69.9	-0.1791+	.1173	-.182	+ .0034-	2	.04	.21	.10
3719	Pulk <sub>ss</sub> 2133	6.2	27	54.661	83.4	83.4	+2.6551-	.0006	+ .006	-.0055	0	.11	.48	.17
3720	L 5974	7.3	27	58.265	88.8	88.8	+4.2660+	.0708	+ .021	-.0041	0	.16	.88	.25
3721	Br 1870	6.1	27	59.825	67.9	67.9	+2.7265+	.0005	+ .006	-.0094	0	.08	.32	.15
3722	$\gamma$ Bootis	3.0	28	3.091	72.6	72.6	+2.4172-	.0028	+ .007	-.0095	0	.04	.20	.08
3723	Pi 126	6.4	28	59.898	85.4	85.4	+1.6264+	.0062	.000	-.0064+	1	.06	.42	.12
3724	$\eta$ Centauri	2.4	29	9.335	74.2	74.2	+3.7912+	.0390	+ .007	-.0030	0	.10	.38	.17
3725	L 5994	6.3	29	11.918	92.8	92.8	+3.7772+	.0381	+ .010	-.0011	0	.11	.80	.18
3726	Pi 116	6.8	29	13.030	78.6	78.6	+3.3707+	.0183	+ .004	+ .0035	0	.09	.54	.19
3727	L 5995	5.5	29	46.204	85.9	85.9	+3.9037+	.0454	+ .010	-.0044	0	.18	.84	.27
3728	Pi 131	7.6	30	13.174	74.5	74.5	+1.9544-	.0006	+ .005	-.0234	0	.11	.45	.19
3729	$\sigma$ Bootis	4.6	30	19.591	65.7	65.7	+2.6132-	.0014	+ .007	+ .0149-	1	.07	.26	.13
3730	Groomb 2127	6.9	30	26.500	73.6	73.6	+2.1876-	.0023	+ .007	-.0032	0	.13	.62	.26
3731	L 6001	5.5	30	47.056	87.5	87.5	+3.9087+	.0452	+ .009	-.0010	0	.18	.84	.26
3732	$\rho$ Lupi	4.1	31	9.477	80.2	80.2	+4.0105+	.0515	+ .011	-.0036	0	.14	.70	.25
3733	Abo 333	6.1	31	9.852	76.0	76.0	+2.0983-	.0018	+ .006	-.0048	0	.08	.40	.16
3734	Pi 127	6.5	31	40.521	71.4	71.4	+3.1857+	.0131	+ .003	-.0594-	2	.08	.33	.15
3735	$\alpha$ Centauri c.g.		32	48.208	70.0	70.0	+4.0412+	.0731	+ .029	-.4874-	72			
3736	Pi 140	6.2	33	35.005	80.0	80.0	+2.7888+	.0019	+ .005	-.0020	0	.11	.44	.17
3737	Pi 134	8.0	33	35.475	80.1	80.1	+3.4547+	.0214	+ .004	+ .0024	0	.13	.58	.22
3738	Pi 135	7.3	33	51.202	86.7	86.7	+3.4856+	.0227	+ .004	+ .0026	0	.12	.72	.20
3739	$\alpha$ Circini	3.2	34	25.286	85.3	85.3	+4.7927+	.1123	+ .045	-.0310	0	.12	.86	.24
3740	Groomb 2135	6.0	34	27.156	74.8	74.8	+2.2547-	.0021	+ .007	-.0102	0	.11	.46	.20
3741	Pi 148 m	7.2	34	41.062	69.4	69.4	+1.9974-	.0003	+ .006	-.0057	0	.15	.54	.27
3742	L 6038	5.9	34	52.740	83.4	83.4	+3.6718+	.0312	+ .004	-.0014	0	.21	1.83	.53
3743	Pi 156	5.9	35	4.879	72.9	72.9	+1.9027+	.0010	+ .004	+ .0017	0	.10	.44	.19
3744	Br 1878	5.5	35	6.928	81.7	81.7	+2.2332-	.0019	+ .006	-.0069+	1	.05	.28	.10
3745	$\alpha$ Lupi	2.3	35	16.620	73.8	73.8	+3.9674+	.0473	+ .008	-.0021	0	.11	.42	.19
3746	$\alpha$ Apodis	3.7	35	25.478	74.6	74.6	+7.2319+	.4353	+ .517	-.0063	0	.08	.60	.23
3747	L 6048	4.1	35	44.787	85.7	85.7	+3.7122+	.0331	+ .004	-.0015	0	.09	.50	.15
3748	Pi 145	6.2	35	55.489	76.0	76.0	+2.8668+	.0033	+ .005	+ .0035	0	.11	.38	.16
3749	$\pi^1$ Bootis	4.8	36	1.583	78.2	78.2	+2.8187+	.0025	+ .005	+ .0011	0	.04	.24	.09
3750	$\pi^2$ Bootis	5.9	14	36	1.983	76.4	+2.8163+	.0025	+ .005	-.0013	0	.09	.62	.22

3707  $\beta$  940. 11<sup>m</sup> 4" 278°.3712 11<sup>m</sup> 22" 18°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu' \delta$ 10			Remarks.
	" " "		" "	"	"	"	"	"	
3701	-26 23 55.43	79.0	-16.491+.295	+ .20	-.071 0	.14	.80	.28	378 G Hydræ
3702	-45 40 54.02	84.5	-16.474+.329	+ .27	-.091- 1	.14	.77	.24	11 G Lupi
3703	+38 50 41.41	59.4	-16.370+.214	+ .08	-.019 0	.12	.58	.32	
3704	+52 18 46.32	72.7	-16.737+.178	+ .06	-.406- 2	.03	.14	.06	
3705	+19 40 34.78	77.2	-16.315+.242	+ .11	+.015 0	.05	.28	.10	22 Bootis f
3706	- 5 40 9.73	64.4	-16.382+.273	+ .15	-.070 0	.10	.37	.20	104 Virginis
3707	-29 2 32.29	78.7	-16.337+.304	+ .21	-.033 0	.09	.39	.15	52 Hydræ (l) *
3708	-12 54 35.62	77.6	-16.341+.282	+ .17	-.037 0	.13	.60	.23	
3709	-67 16 9.76	82.6	-16.348+.428	+ .53	-.074 0	.14	.65	.23	149 Circini (L 5942)
3710	- 1 46 47.33	78.6	-16.277+.269	+ .14	-.010- 1	.04	.23	.08	$\Sigma$ 1846. 10 <sup>m</sup> 4 <sup>s</sup> 6 111°
3711	- 6 27 5.98	72.0	-16.319+.276	+ .15	-.071 0	.08	.34	.15	106 Virginis
3712	-49 4 18.17	81.0	-16.292+.346	+ .30	-.058 0	.14	.63	.23	13 G Lupi *
3713	-44 52 27.59	81.4	-16.287+.336	+ .27	-.053 0	.14	.60	.22	14 G Lupi
3714	- 3 48 4.66	64.3	-16.210+.275	+ .15	-.033- 1	.11	.40	.21	$\Sigma$ 1852. 10 <sup>m</sup> 25 <sup>s</sup> 268°
3715	+50 17 32.10	68.2	-16.213+.184	+ .06	-.054- 3	.06	.24	.12	24 Bootis g
3716	-50 0 49.72	78.8	-16.134+.354	+ .30	-.013 0	.10	.39	.16	
3717	+30 48 36.73	75.7	-15.925+.232	+ .09	+.110- 1	.03	.19	.07	
3718	+76 8 26.02	65.0	-16.007-.009	+ .17	+.017 0	.04	.18	.09	5 Ursæ Min
3719	+27 7 9.67	79.6	-16.063+.239	+ .10	-.048 0	.11	.43	.17	
3720	-56 7 22.83	81.8	-16.056+.381	+ .36	-.044 0	.12	.57	.20	
3721	+22 42 0.64	66.6	-15.981+.245	+ .10	+.029- 1	.07	.30	.15	26 Bootis
3722	+38 44 43.92	68.4	-15.864+.218	+ .08	+.144- 1	.04	.17	.08	$\beta$ 616. 12 <sup>m</sup> 30 <sup>s</sup> 105°
3723	+60 39 58.31	81.3	-15.938+.150	+ .04	+.019- 1	.06	.36	.12	Groomb 2125
3724	-41 43 7.21	74.4	-15.984+.341	+ .25	-.035 0	.09	.35	.15	
3725	-41 4 43.09	90.8	-15.977+.340	+ .25	-.030 0	.10	.63	.16	357 G Centauri
3726	-20 0 2.31	76.9	-15.950+.305	+ .18	-.004 0	.09	.46	.18	
3727	-45 48 31.43	79.9	-15.908+.352	+ .27	+.008 0	.13	.58	.22	18 G Lupi
3728	+53 20 26.67	69.3	-15.656+.178	+ .05	+.236- 2	.09	.37	.18	
3729	+30 10 45.76	66.8	-15.767+.240	+ .09	+.120+ 1	.07	.26	.13	
3730	+47 13 27.65	64.1	-15.900+.201	+ .06	-.019 0	.11	.45	.23	
3731	-45 41 51.45	79.4	-15.894+.355	+ .27	-.032 0	.14	.57	.22	19 G Lupi a *
3732	-48 59 24.18	76.9	-15.879+.365	+ .30	-.037 0	.11	.55	.21	
3733	+49 48 15.41	73.9	-15.793+.194	+ .05	+.049 0	.07	.35	.15	
3734	-11 52 49.15	74.0	-15.451+.287	+ .16	+.364- 5	.07	.34	.14	
3735	-60 25 21.78	72.3	-15.025+.338	+ .34	+.729- 33				See Appendix
3736	+18 43 58.34	76.0	-15.804+.259	+ .11	-.092 0	.11	.38	.17	
3737	-24 35 45.38	75.6	-15.743+.320	+ .19	-.032 0	.12	.49	.21	3 Libræ
3738	-26 17 28.70	82.4	-15.736+.323	+ .20	-.039 0	.10	.50	.17	380 G Hydræ
3739	-64 32 22.74	82.4	-15.902+.440	+ .48	-.236- 3	.10	.59	.19	Dunlop. 8 <sup>m</sup> 16 <sup>s</sup> 236°
3740	+44 4 24.10	69.2	-15.642+.211	+ .06	+.022- 1	.09	.36	.17	
3741	+52 0 36.90	59.4	-15.646+.188	+ .05	+.006 0	.11	.40	.23	$\Sigma$ 1863. 7 <sup>m</sup> 8-8 <sup>m</sup> 1 0 <sup>s</sup> 6 89°, v.s.
3742	-35 42 16.94	78.1	-15.623+.341	+ .23	+.018 0	.19	3.33	1.08	367 G Centauri
3743	+54 27 19.50	70.2	-15.653+.180	+ .05	-.023 0	.10	.37	.18	
3744	+44 50 9.92	74.9	-15.657+.210	+ .06	-.029- 1	.06	.28	.12	33 Bootis
3745	-46 57 32.33	73.3	-15.647+.369	+ .28	-.028 0	.09	.36	.16	
3746	-78 37 12.71	77.3	-15.638+.667	+ 1.37	-.027- 1	.08	.49	.18	
3747	-37 21 51.59	81.7	-15.633+.347	+ .24	-.040 0	.10	.45	.16	368 G Centauri b
3748	+13 57 49.83	78.6	-15.618+.270	+ .11	-.034 0	.11	.40	.17	
3749	+16 50 48.73	73.4	-15.576+.265	+ .11	+.002 0	.04	.20	.08	} $\Sigma$ 1864. 5 <sup>s</sup> 8 103°
3750	+16 50 47.36	78.5	-15.571+.265	+ .11	+.006 0	.10	.69	.24	

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
3751	L 6054	7.1	14 36 12.136	83.1	+3.5933+.0278	+ .004	-.0121 0	.12	.60	.20
3752	$\zeta$ Bootis <i>m</i>	3.8	36 22.396	69.8	+2.8636+.0033	+ .005	+ .0038 0	.05	.27	.12
3753	Br 1877	5.1	36 44.060	72.8	+2.9444+.0051	+ .004	-.0004 0	.11	.39	.18
3754	Br 1879	5.8	36 55.238	70.0	+2.8796+.0041	+ .004	-.0117+ 1	.12	.57	.26
3755	L 6039	5.4	37 21.672	87.8	+4.7054+.0992	+ .032	+ .0091+ 3	.15	.88	.25
3756	Br 1874	5.9	37 26.611	76.2	+3.4583+.0213	+ .003	-.0016 0	.11	.42	.18
3757	L 6063	4.1	37 32.347	79.0	+3.6543+.0303	+ .003	-.0062+ 1	.10	.44	.17
3758	$\mu$ Virginis	3.9	37 47.356	76.8	+3.1571+.0107	+ .003	+ .0071+ 1	.04	.21	.08
3759	L 6071	5.1	38 51.111	84.8	+3.6662+.0301	+ .003	+ .0010 0	.15	.82	.26
3760	L 5823	6.8	38 59.88.	73.1	+24.564+.8.762.		-.180-166	.05	.28	.12
3761	Br 1883	5.0	39 1.670	68.0	+2.6369+.0001	+ .005	-.0008 0	.10	.42	.20
3762	Groomb 2146	6.5	39 33.594	78.4	+1.4918+.0103	- .005	+ .0104- 1	.08	.44	.16
3763	L 6073	6.0	39 47.562	87.9	+3.9866+.0471	+ .007	-.0066 0	.18	1.08	.30
3764	Groomb 2145	6.0	39 51.698	66.0	+2.3284-.0017	+ .006	-.0008 0	.18	.75	.38
3765	L 6070	5.3	40 1.466	90.8	+4.1676+.0581	+ .010	-.0029+ 1	.15	.99	.24
3766	Br 1881	5.1	40 12.637	73.0	+3.4611+.0216	+ .003	-.0126 0	.12	.44	.20
3767	Br 1884	5.9	40 24.523	67.6	+3.0526+.0078	+ .003	-.0026 0	.13	.70	.33
3768	Br 1882	6.9	40 26.864	70.8	+3.3017+.0152	+ .003	-.0020 0	.07	.39	.17
3769	Pi 166	6.8	40 30.480	76.8	+3.3950+.0187	+ .003	-.0037 0	.13	.57	.23
3770	$\sigma$ Bootis	4.7	40 34.477	72.8	+2.7985+.0025	+ .005	-.0040 0	.10	.39	.17
3771	$\epsilon$ Bootis	2.4	40 37.201	68.8	+2.6202+.0001	+ .005	-.0036 0	.03	.15	.07
3772	Br 1889	3.8	41 11.556	81.0	+3.0298+.0074	+ .003	-.0076 0	.04	.26	.08
3773	Pi 171	6.4	41 32.431	79.8	+3.4016+.0187	+ .003	-.0015 0	.12	.54	.20
3774	Br 1885	5.8	41 33.490	78.8	+3.4795+.0217	+ .003	-.0004 0	.11	.52	.20
3775	Br 1886	5.5	41 54.431	77.8	+3.4915+.0220	+ .003	+ .0022 0	.11	.52	.20
3776	Br 1887	5.9	42 6.431	81.0	+3.4991+.0224	+ .003	-.0011 0	.11	.51	.19
3777	L 6066	5.7	43 13.165	84.1	+5.8932+.2136	+ .129	+ .0034- 1	.18	.78	.27
3778	L 6111	6.0	43 31.940	82.1	+3.4566+.0206	+ .002	-.0022 0	.13	.87	.28
3779	$\mu$ Libræ <i>m</i>	5.5	43 50.099	70.7	+3.2822+.0145	+ .003	-.0042 0	.09	.36	.17
3780	$\pi^1$ Octantis	5.7	44 13.399	66.7	+10.0449+.9923	+1.842	+ .0015-17	.22	1.89	.85
3781	Br 1892	4.6	44 24.855	78.5	+3.5125+.0233	+ .002	-.0181 0	.11	.45	.18
3782	L 6095	6.0	44 27.400	89.2	+4.8241+.1038	+ .030	-.0029 0	.18	1.08	.29
3783	$\sigma$ Lupi	4.5	45 6.559	84.1	+3.8960+.0403	+ .004	-.0032 0	.13	.63	.21
3784	$\alpha^1$ Libræ	5.5	45 9.247	66.2	+3.3112+.0155	+ .002	-.0071 0	.04	.18	.09
3785	Groomb 2152	6.3	45 11.158	83.4	+2.3561-.0010	+ .006	-.0216 0	.08	.50	.15
3786	Br 1906	7.8	45 19.339	69.4	+0.2876+.0666	- .077	-.0053 0	.10	.57	.25
3787	$\alpha^2$ Libræ	2.8	45 20.709	67.1	+3.3118+.0155	+ .002	-.0074 0	.03	.13	.06
3788	Pi 193	6.0	45 40.066	81.2	+2.5834-.0009	+ .005	+ .0017 0	.11	.42	.17
3789	Br 1900	5.9	45 44.787	67.3	+2.1384-.0004	+ .005	-.0008+ 1	.09	.32	.16
3790	Br 1897	5.1	45 49.838	74.9	+3.1068+.0092	+ .003	+ .0054+ 1	.11	.46	.20
3791	Br 1895	7.0	45 59.238	73.1	+3.3472+.0166	+ .002	-.0022+ 1	.10	.48	.20
3792	Br 1896	6.9	46 14.569	75.2	+3.3585+.0168	+ .002	-.0010 0	.13	.48	.21
3793	Br 1902	6.3	46 17.337	72.2	+2.0402+.0001	+ .004	-.0072 0	.10	.39	.18
3794	R Apodis	Var.	46 28.758	91.3	+6.6828+.3127	+ .247	-.0185- 5	.16	1.04	.25
3795	Groomb 2154	5.6	46 32.793	75.3	+2.3684-.0009	+ .005	-.0181 0	.09	.52	.20
3796	L 6124	5.3	46 34.462	83.8	+3.7479+.0326	+ .002	-.0032 0	.14	.70	.23
3797	L 6127	6.7	46 35.508	91.2	+3.5622+.0252	+ .002	-.0263- 1	.15	1.29	.28
3798	$\xi$ Bootis <i>c.g.</i>	4.8	46 46.462	70.6	+2.7665+.0023	+ .005	+ .0092 0			
3799	$\pi^2$ Octantis	5.6	47 20.788	76.5	+9.9615+.9509	+1.633	-.0096+ 1	.06	.68	.23
3800	L 6119	5.3	14 47 51.747	90.2	+4.5824+.0836	+ .016	-.0195 0	.15	1.00	.25

3765 h 4698. 12<sup>M</sup> 9" 260°.3766 W. H. 7<sup>M</sup> 9" 129°.3768 Hussey. 12<sup>M</sup> 3" 249.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
3751	-32 20 20.24	80.1	-15.711+.336	+.22	-.143- 1	.15	.71	.26	370 G Centauri
3752	+14 9 25.67	69.5	-15.586+.270	+.11	-.027 0	.04	.22	.10	$\Sigma$ 1865. 4 <sup>M</sup> 4-4 <sup>M</sup> 8 <1''±, binary
3753	+ 8 35 21.79	71.8	-15.547+.278	+.12	-.008 0	.09	.33	.16	31 Bootis
3754	+12 5 29.27	68.6	-15.640+.271	+.12	-.112- 1	.09	.39	.19	32 Bootis
3755	-62 26 55.87	85.6	-15.589+.442	+.45	-.085+ 1	.12	.69	.21	19 G Circini
3756	-24 34 17.60	80.2	-15.514+.326	+.19	-.014 0	.10	.38	.15	12 G or 4 Libræ (53 Hydræ)
3757	-34 44 35.19	75.8	-15.687+.344	+.23	-.193- 1	.11	.47	.20	371 G Centauri $c^1$
3758	- 5 13 24.80	76.9	-15.802+.300	+.15	-.322+ 1	.04	.22	.08	
3759	-34 46 5.69	75.2	-15.431+.348	+.23	-.010 0	.14	.67	.27	372 G Centauri $c^2$
3760	-87 44 30.62	75.0	-15.480+2.279		-.067-17	.05	.28	.11	20 G Octantis $z$
3761	+26 57 10.08	66.5	-15.433+.252	+.09	-.021 0	.09	.35	.18	34 Bootis
3762	+61 41 16.81	73.9	-15.417+.147	+.04	-.035+ 1	.07	.33	.14	$\Sigma$ 1878. 8 <sup>M</sup> 7 4'' 327°
3763	-47 1 8.99	80.8	-15.399+.379	+.29	-.031- 1	.13	.65	.23	29 G Lupi
3764	+40 52 56.47	52.7	-15.342+.224	+.07	+.022 0	.14	.52	.33	
3765	-51 57 36.98	87.9	-15.445+.397	+.32	-.090 0	.12	.71	.20	30 G Lupi $b^*$
3766	-25 1 6.94	71.8	-15.459+.330	+.19	-.114- 1	.11	.41	.19	54 Hydræ *
3767	+ 1 8 21.40	62.0	-15.349+.293	+.14	-.015 0	.12	.49	.26	108 Virginis
3768	-15 2 17.08	70.2	-15.338+.316	+.17	-.006 0	.07	.35	.16	5 Libræ *
3769	-20 45 7.02	78.8	-15.446+.325	+.18	-.118 0	.12	.51	.20	
3770	+17 23 15.44	70.0	-15.384+.269	+.11	-.060 0	.09	.34	.16	
3771	+27 29 44.25	65.8	-15.314+.252	+.09	+.008 0	.03	.13	.06	$\Sigma$ 1877. 7 <sup>M</sup> 3'' 329°
3772	+ 2 18 50.88	79.0	-15.328+.292	+.14	-.038- 1	.04	.23	.08	109 Virginis
3773	-20 54 19.33	82.1	-15.276+.328	+.18	-.006 0	.11	.51	.18	
3774	-25 12 15.93	75.6	-15.297+.335	+.19	-.028 0	.10	.44	.18	55 Hydræ
3775	-25 40 5.91	76.1	-15.252+.337	+.19	-.003 0	.11	.51	.20	56 Hydræ
3776	-26 13 38.59	78.5	-15.259+.338	+.19	-.021 0	.10	.46	.18	57 Hydræ
3777	-72 46 38.59	86.6	-15.144+.568	+.80	+.030 0	.16	.81	.25	17 G Apodis *
3778	-23 50 6.59	80.6	-15.169+.336	+.19	-.013 0	.14	.91	.30	21 G Libræ
3779	-13 43 56.89	63.0	-15.164+.320	+.16	-.025 0	.08	.28	.16	$\beta$ 106. 5 <sup>M</sup> 8-6 <sup>M</sup> 6 1''6 340°, binary
3780	-82 49 23.60	68.4	-15.053+.968	+2.93	+.064 0	.18	1.29	.57	
3781	-27 32 38.07	75.0	-15.172+.341	+.20	-.066- 2	.10	.37	.16	58 Hydræ
3782	-63 23 47.96	87.1	-15.125+.468	+.47	-.022 0	.15	.90	.26	26 G Circini
3783	-43 9 41.38	77.8	-15.101+.381	+.26	-.035 0	.10	.42	.17	
3784	-15 34 53.67	68.3	-15.141+.324	+.17	-.078- 1	.04	.21	.10	
3785	+38 13 23.49	80.4	-14.956+.231	+.07	+.105- 2	.07	.36	.13	
3786	+72 22 59.60	64.1	-15.027+.034	+.11	+.026 0	.09	.41	.21	6 Ursæ Min
3787	-15 37 34.85	66.8	-15.128+.324	+.17	-.076- 1	.03	.12	.06	
3788	+29 1 47.40	70.0	-15.042+.256	+.09	-.009 0	.10	.33	.17	
3789	+46 31 57.93	61.0	-15.117+.213	+.06	-.088 0	.07	.27	.15	38 Bootis $h$
3790	- 1 52 57.64	74.7	-15.162+.307	+.14	-.138 0	.10	.37	.16	11 Libræ
3791	-17 22 27.54	73.1	-15.143+.330	+.17	-.128 0	.10	.48	.20	
3792	-17 56 35.67	75.2	-15.009+.331	+.17	-.009 0	.12	.47	.20	10 Libræ
3793	+49 7 53.79	61.4	-14.908+.203	+.05	+.089- 1	.08	.29	.16	39 Bootis *
3794	-76 15 18.75	89.2	-14.997+.652	+1.09	-.011- 2	.12	.75	.20	L 6077. 5 <sup>M</sup> 5 to 6 <sup>M</sup> 2
3795	+37 40 55.77	73.1	-14.897+.234	+.07	+.085- 2	.08	.41	.17	
3796	-37 23 30.11	75.1	-15.001+.369	+.23	-.020 0	.13	.75	.29	376 G Centauri
3797	-30 9 53.61	82.6	-15.006+.349	+.21	-.026- 3	.15	.77	.26	377 G Centauri
3798	+19 30 57.00	71.8	-15.075+.275	+.10	-.106+ 1				See Appendix
3799	-82 38 14.19	76.9	-14.959+.974	+2.83	-.023- 1	.06	.64	.22	
3800	-59 42 12.01	84.5	-15.017+.451	+.41	-.111- 2	.12	.60	.19	29 G Circini

3777 Innes. 8<sup>M</sup>5 1''7 102°.3793  $\Sigma$  1890. 6<sup>M</sup>8 3''5 44°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			$\alpha$ Ep.	100 $\mu$	$\alpha$ 10							
		M	h	m	s		s	s	s	"	"	"
3801	Br 1899	5.6	14	48	31.543	73.9	+3.4751+.0208	+.002	-.0008 0	.09	.40	.17
3802	$\theta$ Circini	5.5		48	40.524	87.0	+4.7860+.0971	+.023	-.0007 0	.18	.96	.28
3803	Pi 217	5.8		48	54.037	82.8	+1.5184+.0090	+.003	-.0169 0	.05	.30	.09
3804	Br 1901	6.0		48	57.024	76.0	+3.2508+.0133	+.002	-.0042 0	.08	.44	.17
3805	L 6132	5.7		49	9.943	89.3	+4.2430+.0584	+.007	+.0027 0	.20	.99	.28
3806	$\omega$ Octantis	6.0		49	22.12	79.0	+12.256+.1578		+.012+30	.18	1.89	.61
3807	L 6146	5.5		49	36.320	85.3	+3.6693+.0283	+.002	+.0016 0	.11	.72	.21
3808	L 6141 <sup>2</sup>	6.3		49	44.450	87.6	+4.0530+.0473	+.004	-.0025 0	.18	.87	.27
3809	$\beta$ Ursæ Min	2.0		50	59.597	67.1	-0.2205+.1005	-.128	-.0074+2	.03	.11	.06
3810	Br 1903	5.8		51	20.434	73.4	+3.2490+.0130	+.002	-.0001 0	.04	.21	.09
3811	Pi 221	6.1		51	29.995	87.8	+2.8299+.0036	+.004	-.0013 0	.04	.46	.11
3812	Bruss 5978	7.3		51	36.328	83.9	+3.4887+.0205	+.002	+.0678+10	.11	.90	.26
3813	Pi 212	6.3		51	37.493	82.4	+3.4952+.0207	+.002	+.0742+11	.06	.36	.12
3814	Br 1905	4.6		51	57.623	76.8	+3.1284+.0100	+.002	-.0067+1	.10	.46	.19
3815	$\beta$ Lupi	2.7		51	58.810	72.9	+3.9099+.0392	+.002	-.0043 0	.10	.39	.17
3816	Br 1908	5.8		52	25.540	74.4	+3.0727+.0083	+.002	+.0041 0	.11	.44	.19
3817	Pi 226	6.0		52	31.911	65.5	+2.7980+.0031	+.004	+.0014 0	.14	.63	.31
3818	$\kappa$ Centauri	3.2		52	39.243	74.8	+3.8855+.0377	+.002	-.0015 0	.11	.42	.19
3819	Br 1904 <i>m</i>	5.8		52	44.029	81.1	+3.5401+.0228	+.001	-.0034 0	.11	.51	.18
3820	Br 1907	6.8		52	48.157	71.9	+3.2444+.0129	+.002	-.0017 0	.14	.50	.23
3821	L 6178	6.8		52	54.982	88.9	+3.7717+.0323	+.001	-.0025 0	.12	.66	.19
3822	Pi 235	5.9		53	3.888	73.3	+1.9907+.0016	+.004	+.0114+2	.08	.42	.17
3823	Br 1909	6.2		53	28.975	68.8	+3.2393+.0129	+.002	-.0072 0	.10	.38	.18
3824	L 6186	6.0		54	52.699	89.8	+3.7865+.0325	+.001	+.0013 0	.18	1.04	.28
3825	$\delta$ Libræ	Var.		55	37.691	74.4	+3.2000+.0116	+.002	-.0046 0	.06	.26	.11
3826	Br 1914	5.7		55	46.880	76.5	+2.3006-.0002	+.004	-.0028 0	.08	.40	.16
3827	Pi 260	5.1		55	59.495	82.0	+0.9420+.0280	-.022	-.0124+1	.05	.34	.11
3828	Pi 239	5.8		56	8.087	74.0	+3.1131+.0092	+.002	+.0025 0	.13	.66	.27
3829	Br 1910	6.0		56	8.659	83.6	+3.5660+.0231	+.001	+.0067 0	.14	.60	.21
3830	$\eta$ Circini	5.3		56	26.538	81.0	+4.9678+.1042	+.020	+.0183+3	.18	.70	.27
3831	Br 1912	5.9		56	41.621	84.6	+3.0690+.0083	+.002	+.0008 0	.11	.38	.14
3832	L 6198	5.6		56	51.962	74.2	+3.6574+.0268	.000	-.0030 0	.16	.92	.37
3833	Groomb 2196	5.9		57	3.148	73.9	-4.3510+.6859		+.0897+20	.06	.44	.17
3834	$\omega$ Bootis	4.9		57	43.657	73.1	+2.6275+.0014	+.004	-.0005 0	.10	.38	.17
3835	Br 1915	4.7		57	50.839	67.4	+3.0284+.0075	+.002	-.0033 0	.13	.48	.24
3836	$\beta$ Bootis	3.6		58	10.746	76.8	+2.2596+.0001	+.004	-.0040 0	.03	.18	.07
3837	$\sigma$ Libræ	3.4		58	12.929	76.0	+3.5018+.0209	.000	-.0056 0	.05	.24	.10
3838	$\pi$ Lupi <i>m</i>	4.0		58	18.442	81.6	+4.0641+.0451	+.001	-.0022 0	.09	.48	.16
3839	L 6209	5.3		58	49.107	87.9	+3.8818+.0359	.000	+.0015 0	.11	.64	.18
3840	Groomb 2182	6.1		59	6.510	79.2	+1.3982+.0124	-.006	-.0037 0	.08	.48	.17
3841	Pi 263	5.8	14	59	6.513	69.6	+2.3946+.0002	+.005	-.0039 0	.15	.68	.31
3842	$\psi$ Bootis	4.6	15	0	9.634	72.2	+2.5702+.0012	+.004	-.0133+1	.03	.21	.09
3843	Pi 2	6.9		0	18.997	80.0	+0.0481+.0722	-.075	-.0845+14	.08	.50	.17
3844	Pi 262	7.5		0	23.446	79.8	+3.4700+.0194	.000	-.0029 0	.13	.57	.21
3845	L 6217	6.0		0	28.280	90.9	+4.1535+.0487	+.001	+.0032 0	.20	1.04	.28
3846	Grw <sub>45</sub> 1220	6.2		0	29.3	69.8	+1.9764+.0020	+.003	-.0426+3	.13	.94	.40
3847	Br 1923	5.2		0	29.8	68.6	+1.9803+.0020	+.003	-.0386+3	.07	.32	.15
3848	L 6197	5.9		0	36.239	88.5	+5.2695+.1263	+.025	-.0028 0	.18	1.04	.28
3849	$\nu$ Libræ	5.4		1	2.816	64.9	+3.3389+.0153	+.001	-.0033 0	.08	.36	.18
3850	Br 1920	6.9		1	14.038	70.2	+3.3420+.0154	+.001	-.0045 0	.09	.36	.17

3808 h 4715.  $7^m 3^s 2'' 7 277^\circ$ .3819  $\beta$  239.  $6^m 5^s 6'' 6 1'' 318^\circ$ , very slow.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3801	-24 13 59.77	76.6	-14.903+.346	+19	-.036 0	.09	.37	.15	12 Libræ
3802	-62 22 28.75	79.4	-14.868+.475	+45	-.010 0	.14	.60	.23	
3803	+59 42 0.73	74.0	-14.719+.153	+04	+.126- 2	.06	.28	.12	
3804	-11 29 25.65	73.2	-14.864+.325	+16	-.022 0	.08	.34	.15	13 Libræ $\xi^1$
3805	-52 24 13.43	80.7	-14.841+.423	+33	-.012 0	.14	.61	.23	36 G Lupi c
3806	-84 23 40.36	78.2	-14.863+1.211		-.046+ 1	.15	2.13	.69	
3807	-33 26 59.10	80.3	-14.816+.367	+22	-.013 0	.10	.49	.18	381 G Centauri
3808	-47 28 23.74	84.8	-14.822+.405	+29	-.027 0	.15	.71	.23	37 G Lupi *
3809	+74 33 51.10	64.6	-14.716-.016	+17	+.005- 1	.02	.11	.06	
3810	-11 0 22.34	70.0	-14.703+.328	+16	-.002 0	.05	.21	.10	15 Libræ $\xi^2$
3811	+14 51 0.96	85.1	-14.707+.287	+10	-.016 0	.05	.37	.10	
3812	-20 57 44.64	81.5	-16.349+.359	+18	-1.664+7	.11	1.03	.31	} W. H. 17" 294° Parallax .17
3813	-20 57 51.96	84.2	-16.438+.360	+18	-1.754+8	.06	.39	.12	
3814	- 3 56 21.61	73.7	-14.828+.316	+14	-.164- 1	.08	.33	.14	16 Libræ
3815	-42 43 52.04	71.9	-14.714+.395	+26	-.051 0	.08	.33	.15	
3816	+ 0 14 7.02	74.1	-14.667+.313	+13	-.031 0	.09	.35	.15	1 Serpentinis
3817	+16 47 25.86	62.6	-14.650+.285	+10	-.020 0	.11	.59	.30	
3818	-41 42 10.50	75.2	-14.653+.393	+25	-.032 0	.09	.39	.17	
3819	-27 15 21.34	80.7	-14.632+.359	+20	-.014 0	.10	.47	.17	59 Hydræ *
3820	-10 45 11.42	71.8	-14.628+.330	+16	-.015 0	.10	.41	.19	17 Libræ
3821	-37 28 48.31	83.0	-14.614+.383	+23	-.007 0	.16	.87	.28	386 G Centauri
3822	+50 2 14.34	68.0	-14.830+.206	+05	-.232+ 1	.08	.36	.17	
3823	-10 44 32.16	59.9	-14.649+.330	+15	-.076- 1	.08	.27	.16	18 Libræ *
3824	-37 39 37.62	88.2	-14.531+.388	+23	-.043 0	.16	.85	.24	388 G Centauri
3825	- 8 7 19.97	69.2	-14.454+.329	+15	-.011 0	.06	.29	.13	5 <sup>m</sup> to 6 <sup>m</sup>
3826	+39 39 41.98	71.4	-14.410+.238	+06	+.024 0	.09	.30	.14	40 Bootis
3827	+66 19 50.46	78.5	-14.389+.100	+06	+.032- 1	.05	.28	.10	
3828	- 2 21 30.61	73.1	-14.441+.321	+14	-.029 0	.11	.49	.21	
3829	-27 39 52.33	78.1	-14.466+.368	+20	-.054+ 1	.13	.53	.21	60 Hydræ
3830	-63 38 20.00	78.4	-14.399+.512	+48	-.005+ 2	.14	.56	.23	
3831	+ 0 15 18.24	81.8	-14.406+.318	+13	-.028 0	.09	.34	.13	2 Serpentinis *
3832	-32 14 56.74	65.1	-14.419+.378	+21	-.051 0	.14	.77	.37	45 G Lupi
3833	+82 55 21.55	73.2	-14.599-.427		-.243+ 9	.07	.41	.17	
3834	+25 24 11.55	71.4	-14.373+.274	+09	-.058 0	.09	.36	.16	
3835	+ 2 29 1.60	64.7	-14.310+.315	+13	-.002 0	.09	.34	.18	110 Virginis
3836	+40 47 5.37	72.8	-14.330+.237	+06	-.043 0	.03	.19	.08	
3837	-24 53 20.58	76.2	-14.340+.364	+19	-.055- 1	.05	.25	.10	20, 45 G Libræ, $\gamma$ Scorpii, etc.
3838	-46 39 35.53	78.3	-14.313+.422	+28	-.033 0	.08	.36	.14	h 4728. 4 <sup>m</sup> 7-4 <sup>m</sup> 8 1" 87°, sl. binary
3839	-40 40 37.20	82.8	-14.257+.404	+24	-.009 0	.10	.49	.17	
3840	+60 35 50.34	78.6	-14.213+.149	+04	+.017 0	.08	.42	.15	
3841	+35 35 49.61	61.5	-14.243+.251	+07	-.013 0	.12	.60	.32	
3842	+27 20 14.51	74.8	-14.185+.270	+09	-.020- 1	.04	.21	.08	
3843	+72 9 21.79	79.0	-14.070+.002	+12	+.086- 9	.08	.38	.14	9 Ursæ Min
3844	-22 56 4.23	84.6	-14.191+.364	+18	-.040 0	.11	.51	.17	
3845	-48 42 6.97	85.5	-14.129+.435	+29	+.017 0	.15	.73	.23	54 G Lupi
3846	+48 2 34.	66.4	-14.120+.206	+05	+.025- 4	.11	.69	.32	} See Appendix 44 Bootis i
3847	+48 2 37.	60.6	-14.114+.206	+05	+.031- 4	.06	.25	.14	
3848	-66 41 56.54	87.5	-14.150+.550	+56	-.012 0	.15	.93	.26	2 G Trianguli Aust
3849	-15 52 9.24	58.6	-14.144+.351	+16	-.034 0	.07	.29	.16	Also $\nu^1$
3850	-16 5 50.07	72.6	-14.123+.352	+16	-.024 0	.08	.32	.14	22 Libræ ( $\nu^2$ )

3823  $\Sigma$  1894. 10<sup>m</sup> 20" 40°.3831  $\beta$  348. 8<sup>m</sup> 0" 6 116°.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
3851	Groomb 2213	7.2	15 1 40.86	79.1	-6.538+1.122		-.010+ 2	.08	.48	.17
3852	$\lambda$ Lupi <i>m</i>	4.4	2 6.353	75.2	+4.0202+.0417	-.001	-.0023 0	.14	.68	.27
3853	Br 1925	5.7	2 7.119	70.5	+1.9868+.0018	+.003	-.0062 0	.08	.36	.16
3854	Pulk <sub>ss</sub> 2195	6.4	2 40.022	84.1	+2.3508+.0004	+.005	-.0053 0	.12	.69	.21
3855	Br 1924	5.0	2 54.536	72.4	+2.6346+.0017	+.004	+.0138+ 1	.07	.32	.14
3856	Radcl 3328	5.5	3 25.312	78.8	+1.7108+.0056	.000	+.0051 0	.12	.72	.25
3857	L 6236	5.8	3 48.559	80.3	+4.4418+.0639	+.001	-.0006 0	.16	.69	.26
3858	Pi 282	7.1	4 1.183	80.7	+3.4904+.0197	.000	-.0020 0	.10	.57	.19
3859	Br 1926	6.1	4 4.742	70.0	+2.5890+.0015	+.004	.0000 0	.11	.42	.20
3860	Pi 291	6.2	4 14.106	63.5	+2.6123+.0016	+.004	-.0012 0	.12	.66	.33
3861	L 6222	5.9	4 43.098	82.3	+5.6792+.1580	+.037	-.0002 0	.18	.72	.27
3862	$\kappa^1$ Lupi	4.0	4 58.790	79.8	+4.1479+.0475	-.001	-.0101 0	.10	.54	.19
3863	$\kappa^2$ Lupi	6.2	5 0.420	87.4	+4.1478+.0475	-.001	-.0106 0	.18	.88	.27
3864	$\zeta$ Lupi	3.4	5 5.949	79.6	+4.2846+.0548	-.001	-.0115 0	.11	.52	.20
3865	L 6257	5.0	6 6.443	82.9	+4.0093+.0401	-.002	-.0036 0	.16	.88	.29
3866	$\epsilon$ Libræ	4.7	6 31.188	71.8	+3.4121+.0171	.000	-.0026 0	.04	.26	.11
3867	Pulk <sub>ss</sub> 2201	6.1	7 31.244	78.2	+2.7294+.0029	+.004	-.0003 0	.12	.75	.27
3868	Br 1928	6.3	7 37.296	70.1	+3.4099+.0169	.000	-.0036 0	.10	.40	.19
3869	Pi 5	7.4	7 37.937	87.4	+3.4971+.0204	-.001	-.0289 0	.10	.70	.19
3870	Groomb 2198	8.6	8 12.118	87.9	+1.9464+.0026	+.002	+.0021 0	.13	.51	.17
3871	Br 1929	5.1	8 29.673	76.4	+3.6645+.0251	-.001	+.0003 0	.11	.48	.20
3872	L 6259	6.1	8 31.919	83.8	+4.8032+.0841	+.003	-.0028 0	.18	.75	.27
3873	Pi 14	7.0	8 48.844	70.3	+3.3841+.0162	.000	-.0079 0	.16	.62	.30
3874	$\delta$ Circini	5.4	8 51.502	84.1	+4.8102+.0844	+.003	-.0018 0	.18	.75	.27
3875	Br 1930	6.5	8 55.068	74.7	+3.3781+.0158	.000	-.0016 0	.12	.44	.20
3876	$\epsilon$ Circini	4.9	9 11.807	87.1	+5.0199+.0986	+.005	-.0002 0	.20	.84	.27
3877	Groomb 2283	7.3	9 20.50	84.8	-20.557+7.003		-.008- 41	.04	.28	.08
3878	L 6280	5.3	9 29.197	86.7	+3.9303+.0355	-.002	-.0004 0	.15	.86	.25
3879	$\gamma$ Trianguli Aust	2.9	9 34.155	73.1	+5.5340+.1397	+.020	-.0114- 1	.09	.39	.16
3880	$\beta$ Circini	4.2	9 40.927	82.0	+4.6611+.0750	-.001	-.0126+ 1	.13	.57	.21
3881	Groomb 2201	6.5	9 47.118	67.3	+2.2859+.0009	+.004	+.0006 0	.14	.75	.35
3882	Br 1932	5.6	10 13.054	80.6	+2.9793+.0066	+.002	-.0014 0	.06	.40	.13
3883	$\chi$ Bootis	5.4	10 18.258	80.2	+2.5076+.0013	+.003	-.0058 0	.11	.36	.15
3884	Pi 19	5.8	10 35.082	80.3	+3.4689+.0184	-.001	-.0031 0	.09	.54	.18
3885	Br 1933	5.7	10 43.419	69.8	+3.0523+.0081	+.001	-.0072 0	.10	.33	.16
3886	L 6272	5.6	10 45.739	88.2	+4.7904+.0818	+.001	-.0027 0	.18	.99	.28
3887	$\delta$ Bootis	3.4	11 28.270	74.8	+2.4188+.0012	+.004	+.0071+ 1	.04	.22	.09
3888	$\mu$ Lupi <i>m</i>	4.5	11 34.466	79.4	+4.1516+.0452	-.004	-.0031 0	.14	.63	.24
3889	Brisb 5261	6.5	11 36.263	90.5	+4.1536+.0451	-.004	-.0014 0	.20	1.04	.28
3890	$\beta$ Libræ	2.6	11 37.488	70.3	+3.2230+.0118	+.001	-.0067 0	.03	.15	.07
3891	Br 1931	4.4	11 44.651	79.1	+3.6386+.0238	-.002	-.0015 0	.11	.48	.18
3892	L 6303	5.9	12 22.805	86.2	+3.9173+.0344	-.003	-.0022 0	.12	.84	.24
3893	Groomb 2214	5.3	13 29.327	82.9	+0.6716+.0393	-.031	+.0382+ 7	.05	.40	.12
3894	Pi 36	5.9	13 55.426	62.7	+2.6873+.0028	+.003	-.0022 0	.12	.57	.29
3895	Br 1937	5.2	14 12.433	69.8	+3.0594+.0081	+.001	+.0246+ 3	.07	.28	.14
3896	$\delta$ Lupi	3.4	14 48.395	84.1	+3.9228+.0340	-.004	-.0006 0	.10	.50	.16
3897	L 6324	5.9	15 3.403	87.0	+4.0234+.0437	-.005	-.1631- 9	.16	1.02	.29
3898	L 6309	5.8	15 4.053	89.9	+4.8233+.0815	-.003	-.0109- 1	.20	1.05	.29
3899	L 6322	5.3	15 10.204	78.2	+4.1584+.0448	-.005	-.0136 0	.15	.70	.27
3900	Br 1938	6.5	15 15.372	76.4	+3.3939+.0159	-.001	-.0012 0	.09	.44	.17

3853  $\beta$  1086.  $13^m 6'' 251^\circ$ , slow binary.  
3873 W. H.  $8^m 47'' 140^\circ$ .

3857 h 4734.  $12^m 11'' 246^\circ$ .  
3886 Innes.  $13^m 5'' 118^\circ$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
3851	+84 20 13.57	76.3	-14.059-.674		+.012- 1	.09	.47	.18	
3852	-44 53 41.96	72.4	-14.064+.424	+.27	-.020 0	.11	.53	.23	Lowell, 4 <sup>m</sup> 9-5 <sup>m</sup> 5 < 1", binary
3853	+48 32 13.82	70.9	-14.029+.212	+.05	+.015- 1	.08	.38	.17	47 Bootis $k^*$
3854	+36 50 25.49	81.2	-13.994+.250	+.07	+.015- 1	.11	.55	.19	
3855	+25 15 30.49	67.3	-14.177+.282	+.09	-.183+ 1	.07	.27	.14	45 Bootis $c$
3856	+54 56 27.97	76.9	-13.963+.185	+.04	-.001 0	.10	.64	.23	
3857	-54 57 55.27	75.7	-13.968+.471	+.35	-.030 0	.13	.52	.22	59 G Lupi *
3858	-23 36 13.36	77.8	-13.961+.372	+.18	-.037 0	.09	.48	.18	
3859	+26 41 3.18	66.8	-13.950+.277	+.09	-.029 0	.09	.35	.18	46 Bootis $b$
3860	+25 29 28.41	66.0	-13.905+.280	+.09	+.006 0	.12	.61	.29	
3861	-69 42 7.41	79.1	-13.885+.603	+.66	-.005 0	.14	.59	.23	3 G Trianguli Aust
3862	-48 21 27.40	79.8	-13.930+.442	+.29	-.066- 1	.09	.49	.18	Dunlop. 27" 144°
3863	-48 21 49.37	82.2	-13.913+.442	+.29	-.051- 1	.15	.64	.23	Brisb 5207
3864	-51 43 7.30	77.3	-13.925+.456	+.31	-.069- 1	.09	.42	.17	
3865	-44 7 21.44	77.6	-13.825+.430	+.26	-.033 0	.13	.64	.24	66 G Lupi $e$
3866	-19 24 48.10	71.4	-13.815+.367	+.17	-.049 0	.05	.23	.10	$e'$ = Br 1927
3867	+19 21 7.79	77.0	-13.705+.296	+.09	-.002 0	.10	.59	.22	
3868	-19 16 16.20	69.7	-13.741+.368	+.17	-.045 0	.11	.38	.19	25 Libræ ( $t^2$ )
3869	-24 55 55.78	85.0	-13.774+.375	+.18	-.079- 3	.10	.59	.18	56 G Libræ
3870	+49 4 9.26	77.6	-13.686+.214	+.05	-.027 0	.11	.39	.17	
3871	-31 8 45.40	75.4	-13.658+.397	+.20	-.018 0	.12	.46	.20	69 G Lupi $i$
3872	-60 31 56.50	80.5	-13.644+.519	+.42	-.005 0	.14	.60	.23	40 G Circini
3873	-18 3 17.64	68.0	-13.656+.367	+.16	-.036- 1	.14	.46	.24	60 G Libræ *
3874	-60 35 10.15	79.9	-13.635+.520	+.42	-.018 0	.15	.58	.23	
3875	-17 23 42.49	71.6	-13.630+.367	+.16	-.017 0	.11	.38	.18	26 Libræ
3876	-63 14 26.62	81.5	-13.604+.544	+.47	-.009 0	.15	.63	.23	
3877	+87 37 3.71	84.3	-13.567-2.199		+.019- 1	.04	.27	.08	
3878	-41 7 11.62	79.1	-13.594+.428	+.24	-.017 0	.12	.55	.21	72 G Lupi
3879	-68 18 36.18	74.8	-13.595+.598	+.61	-.024- 1	.07	.37	.15	
3880	-58 25 40.00	79.9	-13.711+.505	+.39	-.148- 1	.11	.47	.18	
3881	+38 38 20.73	66.2	-13.604+.251	+.06	-.047 0	.12	.56	.27	
3882	+5 18 37.46	77.7	-13.538+.326	+.11	-.009 0	.06	.34	.13	3 Serpentin
3883	+29 32 7.01	72.2	-13.502+.275	+.07	+.022- 1	.08	.32	.15	
3884	-22 1 46.72	83.0	-13.506+.379	+.17	.000 0	.09	.45	.15	64 G Libræ
3885	+0 44 31.35	69.6	-13.484+.334	+.12	-.013- 1	.08	.27	.13	4 Serpentin
3886	-60 7 43.55	84.0	-13.509+.522	+.41	-.015 0	.15	.73	.24	45 G Circini *
3887	+33 41 15.66	73.7	-13.575+.268	+.07	-.127+ 1	.04	.22	.09	W. H. 7 <sup>m</sup> 105" 78°, fixed
3888	-47 30 25.49	73.4	-13.492+.455	+.28	-.050 0	.11	.42	.19	*
3889	-47 30 40.91	78.8	-13.482+.455	+.28	-.042 0	.14	.56	.22	76 G Lupi
3890	-9 0 50.76	70.3	-13.468+.354	+.14	-.030- 1	.02	.12	.05	
3891	-29 46 51.69	73.8	-13.449+.399	+.19	-.018 0	.09	.38	.17	78 G Lupi $f$
3892	-40 25 18.18	82.5	-13.421+.431	+.24	-.032 0	.11	.58	.19	79 G Lupi
3893	+67 43 34.95	78.1	-13.721+.083	+.07	-.404+ 4	.05	.30	.11	
3894	+20 56 17.39	59.7	-13.321+.299	+.08	-.033 0	.11	.56	.30	
3895	+2 8 36.62	63.0	-13.798+.343	+.12	-.528+ 3	.06	.24	.13	5 Serpentin *
3896	-40 17 7.79	80.2	-13.263+.435	+.23	-.032 0	.10	.46	.17	
3897	-47 56 57.74	84.1	-13.490+.430	+.28	-.276- 16	.14	.77	.24	85 G Lupi ( $v^2$ )
3898	-60 17 49.03	85.6	-13.236+.533	+.41	-.023- 1	.15	.77	.24	46 G Circini
3899	-47 33 49.17	78.8	-13.348+.460	+.28	-.141- 2	.12	.57	.22	86 G Lupi ( $v^1$ )
3900	-17 47 43.85	71.4	-13.270+.378	+.16	-.067 0	.09	.35	.16	28 Libræ

3888 h 4753. 5<sup>m</sup>1-5<sup>m</sup>6 1"7 156°, slow; 6<sup>m</sup>9 23" 130°.3895  $\Sigma$  1930. 10<sup>m</sup> 11" 39°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup>	<sup>m</sup>	<sup>s</sup>		<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
3901	$\gamma$ Circini <i>m</i>	4.6	15	15	24.592	84.2	+4.7433+	.0759	-.004	-.0013+ 1	.18	.78	.27
3902	Br 1939	6.3	15	25.872	74.9	+3.3474+	.0144	-.001	+ .0018 0	.08	.32	.14	
3903	$\phi$ Lupi	3.5	15	27.525	86.1	+3.7927+	.0291	-.003	-.0082 0	.10	.64	.18	
3904	Cord 20813	5.8	15	50.540	96.8	+3.1637+	.0102	+ .001	-.0051 0	.14	1.04	.20	
3905	$\epsilon$ Lupi <i>m</i>	3.5	15	53.329	81.4	+4.0557+	.0393	-.005	-.0015 0	.11	.54	.19	
3906	L 6327	7.2	15	53.510	94.8	+4.3323+	.0525	-.005	-.0020 0	.16	1.17	.24	
3907	Br 1940	5.7	15	56.493	66.8	+3.0498+	.0081	+ .001	-.0036+ 1	.09	.34	.17	
3908	$\circ$ Coronæ Bor	5.8	16	0.305	73.5	+2.4808+	.0017	+ .003	-.0096+ 1	.08	.36	.16	
3909	Pi 56	7.8	16	19.777	69.5	+1.8437+	.0040	+ .001	-.0002 0	.15	.57	.28	
3910	L 6349	4.8	16	45.890	82.8	+3.8190+	.0294	-.004	-.0018 0	.10	.44	.16	
3911	Radcl 3360	5.9	17	8.713	77.2	+1.7626+	.0051	.000	+ .0018 0	.10	.56	.21	
3912	Br 1954	5.3	17	10.415	67.6	-0.0762+	.0732	-.072	+ .0044- 1	.08	.36	.17	
3913	Br 1941	6.9	17	27.037	72.2	+3.3398+	.0142	-.001	-.0001 0	.06	.28	.12	
3914	Br 1943	6.5	17	39.071	68.0	+2.8394+	.0046	+ .002	.0000 0	.13	.51	.25	
3915	Br 1946	5.6	17	48.324	70.7	+2.4014+	.0014	+ .003	-.0041 0	.12	.44	.21	
3916	$\nu$ Lupi	5.7	18	12.955	86.6	+3.9026+	.0325	-.004	-.0038 0	.14	.70	.21	
3917	Pi 54	6.0	18	22.938	77.5	+3.2863+	.0129	.000	-.0026 0	.09	.50	.18	
3918	Br 1945	6.3	18	34.331	80.5	+3.0887+	.0085	+ .001	+ .0045 0	.08	.46	.16	
3919	$\epsilon$ Libræ	5.2	18	46.579	68.1	+3.2460+	.0121	.000	-.0054+ 1	.09	.34	.17	
3920	L 6336	6.0	18	50.242	94.6	+5.1746+	.1020	-.004	-.0045 0	.21	1.41	.30	
3921	L 6361	4.7	18	51.034	88.1	+3.8749+	.0312	-.005	-.0049 0	.12	.62	.18	
3922	Groomb 2221	5.9	18	55.380	62.4	+2.2182+	.0014	+ .003	-.0004 0	.18	.72	.39	
3923	$\eta$ Coronæ Bor <i>m</i>	5.2	19	4.386	71.1	+2.4779+	.0018	+ .003	+ .0101+ 1	.07	.26	.12	
3924	$\rho$ Octantis	5.8	20	11.55	77.4	+13.130+	1.404		+ .089+ 15	.05	.40	.14	
3925	L 6323	5.7	20	36.582	87.4	+6.4371+	.2073	+ .024	-.0003+ 1	.15	.81	.24	
3926	$\mu$ Bootis	4.4	20	42.741	74.0	+2.2656+	.0014	+ .003	-.0126 0	.04	.18	.07	
3927	Pi 74 <i>m</i>	6.8	20	44.135	67.3	+2.2668+	.0014	+ .003	-.0122 0	.11	.48	.23	
3928	$\gamma$ Ursæ Min	2.9	20	53.050	67.5	-0.1273+	.0739	-.071	-.0026 0	.03	.15	.07	
3929	L 6376	5.7	20	53.812	89.8	+3.8299+	.0290	-.004	-.0002 0	.13	.75	.20	
3930	Radcl 3381	6.0	20	58.159	77.9	+0.9912+	.0234	-.015	-.0025+ 3	.10	.58	.21	
3931	Br 1948	5.5	21	9.077	80.7	+2.7804+	.0040	+ .002	-.0014 0	.06	.36	.12	
3932	Groomb 2230	7.1	21	53.458	64.0	+1.9469+	.0033	+ .002	-.0039+ 1	.18	.75	.39	
3933	Pi 81	6.2	22	22.414	91.7	+2.3491+	.0015	+ .003	-.0086 0	.13	.57	.16	
3934	L 6380	5.3	22	26.572	87.3	+4.1549+	.0417	-.007	-.0015 0	.18	.80	.26	
3935	Br 1949	6.0	22	36.931	74.3	+3.3770+	.0148	-.002	+ .0011 0	.04	.26	.10	
3936	$\iota$ Draconis	3.4	22	42.246	77.1	+1.3294+	.0132	-.007	-.0006 0	.04	.22	.08	
3937	L 6395 <i>m</i>	7.5	22	54.203	79.4	+3.6311+	.0220	-.003	-.0034 0	.15	.84	.30	
3938	Pi 83	6.4	23	20.798	74.8	+2.5794+	.0024	+ .003	+ .0002 0	.14	.78	.31	
3939	Br 1952	5.4	23	35.139	77.1	+3.0272+	.0076	+ .001	-.0055 0	.10	.38	.16	
3940	$\beta$ Coronæ Bor	3.7	23	42.355	78.7	+2.4732+	.0019	+ .003	-.0133 0	.04	.22	.08	
3941	Br 1951	7.5	23	55.249	70.8	+3.3866+	.0150	-.002	-.0051 0	.14	.46	.23	
3942	Br 1953	6.0	25	1.807	72.6	+3.3776+	.0146	-.002	+ .0011 0	.09	.36	.16	
3943	Pi 96	5.6	26	51.981	77.1	+3.4389+	.0161	-.002	-.0014 0	.10	.52	.20	
3944	Br 1956	5.7	27	16.157	66.7	+3.3829+	.0146	-.002	-.0009 0	.10	.33	.17	
3945	$\nu^1$ Bootis	5.3	27	20.215	80.0	+2.1542+	.0021	+ .003	+ .0009 0	.04	.22	.08	
3946	Br 1961	6.4	27	33.185	69.4	+2.7633+	.0040	+ .002	+ .0003 0	.14	.57	.27	
3947	$\epsilon$ Trianguli Aust	4.2	27	33.861	73.2	+5.4355+	.1126	-.013	+ .0034+ 3	.11	.48	.21	
3948	Br 1959	5.8	27	48.825	70.9	+3.0873+	.0085	+ .001	-.0006 0	.11	.38	.18	
3949	$\nu^2$ Bootis	5.1	28	12.160	69.0	+2.1465+	.0022	+ .003	-.0020 0	.06	.36	.16	
3950	$\gamma$ Lupi	2.8	15	28.522	74.8	+3.9824+	.0330	-.007	-.0014 0	.08	.34	.15	

3901 h 4757.  $5^M 4-5^M 5$  1" 81°, slow binary.3905 Copeland.  $3^M 6-6^M$  0" 8 280°;  $9^M 5$  27" 172°.3907  $\beta$  32.  $9^M 2'' 5$  13°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 19			Remarks.
	" ' "		" "	"	"	"	"	"	
3901	-58 57 38.20	76.4	-13.233+.526	+.39	-.042 0	.13	.53	.22	*
3902	-15 11 16.47	75.3	-13.177+.373	+.15	+.012 0	.08	.31	.13	29 Libræ ( $\alpha^1, \alpha$ )
3903	-35 53 55.20	73.4	-13.283+.421	+.21	-.095- 1	.12	.56	.24	88 G Lupi $\phi^1$
3904	- 5 27 50.09	97.0	-13.186+.353	+.13	-.024- 1	.14	1.17	.21	
3905	-44 19 47.46	76.3	-13.182+.451	+.26	-.023 0	.09	.39	.16	*
3906	-51 22 37.58	91.2	-13.182+.482	+.31	-.023 0	.13	.80	.20	
3907	+ 1 4 43.82	67.0	-13.269+.341	+.12	-.113 0	.08	.31	.16	6 Serpentes *
3908	+29 58 43.38	69.4	-13.210+.278	+.07	-.058- 1	.07	.29	.14	
3909	+50 34 33.57	57.8	-13.123+.209	+.04	+.007 0	.12	.45	.26	
3910	-36 29 59.53	76.9	-13.132+.427	+.22	-.031 0	.11	.42	.18	92 G Lupi $\phi^2$
3911	+52 19 6.70	77.3	-13.075+.200	+.04	+.001 0	.10	.56	.21	
3912	+72 11 12.26	66.0	-13.069-.002	+.14	+.005 0	.06	.29	.14	11 Ursæ Min
3913	-14 46 38.05	75.0	-13.055+.375	+.15	+.001 0	.06	.29	.12	30 Libræ ( $\alpha^2$ )
3914	+12 55 31.21	69.8	-13.064+.320	+.09	-.022 0	.11	.42	.20	7 Serpentes
3915	+33 17 28.79	67.7	-13.038+.271	+.06	-.006 0	.10	.44	.21	50 Bootis
3916	-39 21 13.56	82.0	-13.063+.438	+.23	-.058 0	.12	.52	.19	
3917	-12 0 45.85	77.4	-13.042+.370	+.14	-.048 0	.08	.45	.17	
3918	- 0 39 57.01	78.5	-13.016+.349	+.12	-.035 0	.08	.44	.16	8 Serpentes
3919	- 9 57 46.52	70.2	-13.127+.366	+.14	-.159- 1	.08	.33	.16	
3920	-64 10 44.22	91.5	-12.987+.580	+.49	-.023 0	.17	1.08	.26	9 G Trianguli Aust
3921	-38 22 45.38	81.4	-12.983+.436	+.23	-.020 0	.12	.50	.19	97 G Lupi $k$
3922	+39 56 17.20	55.6	-12.985+.252	+.06	-.027 0	.15	.58	.35	
3923	+30 38 55.38	67.8	-13.146+.282	+.07	-.198+ 1	.06	.24	.12	See Appendix
3924	-84 7 54.79	79.9	-12.792+.1483		+.081+ 10	.05	.38	.12	
3925	-73 2 32.81	84.2	-12.868+.726	+.84	-.023 0	.12	.58	.19	29 G Apodis $\kappa^1$
3926	+37 43 39.65	68.1	-12.760+.258	+.06	+.078- 1	.04	.20	.09	} $\mu^2$ Bootis * Also $\gamma^2$ 100 G Lupi
3927	+37 41 52.85	63.1	-12.743+.258	+.06	+.093- 1	.09	.37	.20	
3928	+72 11 23.27	67.7	-12.814-.009	+.14	+.012 0	.03	.13	.06	
3929	-36 24 59.90	85.0	-12.867+.435	+.22	-.041 0	.13	.58	.20	
3930	+63 41 53.87	78.8	-12.934+.116	+.05	-.113 0	.10	.59	.21	
3931	+15 46 46.03	77.6	-12.835+.317	+.09	-.026 0	.06	.33	.12	9 Serpentes $\tau^1$
3932	+47 24 46.60	56.4	-12.800+.224	+.05	-.041 0	.13	.47	.28	
3933	+34 41 2.56	82.2	-12.669+.269	+.06	+.057- 1	.11	.41	.16	
3934	-46 23 8.87	84.8	-12.737+.473	+.26	-.015 0	.13	.63	.21	102 G Lupi
3935	-16 22 4.69	74.1	-12.753+.386	+.15	-.043 0	.04	.28	.11	32 Libræ $\zeta^1$
3936	+59 18 58.52	73.8	-12.695+.155	+.04	+.009 0	.03	.16	.07	
3937	-28 31 6.42	72.0	-12.737+.415	+.18	-.047 0	.15	.81	.34	*
3938	+25 26 58.04	70.1	-12.699+.297	+.08	-.039 0	.14	.64	.29	
3939	+ 2 11 21.72	72.6	-12.690+.347	+.12	-.046- 1	.10	.31	.15	10 Serpentes
3940	+29 27 0.84	75.8	-12.560+.284	+.07	+.076- 2	.04	.23	.09	
3941	-17 5 45.53	68.0	-12.620+.388	+.15	+.001- 1	.12	.42	.21	33 Libræ ( $\zeta^2$ )
3942	-16 15 59.24	74.2	-12.556+.389	+.15	-.010 0	.09	.42	.18	34 Libræ $\zeta^3$
3943	-19 19 47.82	77.0	-12.463+.398	+.16	-.043 0	.10	.47	.18	
3944	-16 30 49.64	60.2	-12.417+.393	+.15	-.025 0	.09	.28	.16	35 Libræ $\zeta^4$
3945	+41 10 25.59	76.4	-12.403+.252	+.06	-.015 0	.04	.24	.09	
3946	+16 23 41.65	64.5	-12.389+.322	+.08	-.016 0	.13	.46	.25	12 Serpentes $\tau^2$
3947	-65 58 50.27	76.2	-12.444+.629	+.52	-.072 0	.10	.43	.18	
3948	- 0 50 49.77	74.7	-12.404+.360	+.12	-.049 0	.09	.34	.15	11 Serpentes $A^1$
3949	+41 14 18.94	72.8	-12.343+.252	+.05	-.015 0	.06	.36	.15	
3950	-40 49 50.17	73.0	-12.345+.463	+.23	-.036 0	.08	.32	.14	*

3927  $\Sigma$  1938.  $7^m 3-7^m 9$  1"  $\pm$ , binary, 250 yrs.  $\pm$ . 3937  $\beta$  III 4.  $8^m-8^m 5$  0" 7 322°;  $9^m 5$  9" 5°.  
3950 h 4786.  $3^m 5-3^m 7$  0" 6 91°, binary?



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		M	h m s		s s	s	s	"	"	"
3951	Br 1958	5.4	15 28 33.466	78.2	+3.6272+.0211	-.004	+.0007 0	.12	.52	.20
3952	Br 1960	4.9	28 42.673	76.2	+3.2734+.0119	-.001	+.0202+ 2	.05	.24	.10
3953	$\theta$ Coronæ Bor	4.3	28 53.820	75.6	+2.4180+.0020	+.003	-.0020 0	.05	.33	.13
3954	L 6424	4.8	29 0.022	83.4	+4.1147+.0381	-.009	-.0006 0	.16	.98	.31
3955	Pulk <sub>ss</sub> 2237	5.3	29 2.436	85.0	+3.2358+.0112	-.001	-.0010 0	.11	.52	.17
3956	L 6390	6.1	29 15.637	83.6	+6.5533+.2034	-.006	-.0037 0	.18	.75	.27
3957	L 6427	5.7	29 21.036	90.8	+4.0915+.0372	-.008	-.0047 0	.20	1.05	.28
3958	Pi 136	6.0	29 31.384	80.3	+0.8315+.0262	-.018	-.0170 0	.08	.51	.17
3959	$\gamma$ Libræ	4.1	29 55.865	75.3	+3.3501+.0136	-.002	+.0045 0	.04	.21	.08
3960	$\delta$ Serpentis N*	4.2	30 1.519	70.4	+2.8641+.0052	+.001	-.0046 0	.07	.38	.16
3961	$\alpha$ Coronæ Bor	2.2	30 27.232	66.7	+2.5391+.0024	+.002	+.0090 0	.02	.11	.06
3962	$\nu$ Libræ	3.7	30 57.114	79.2	+3.6325+.0209	-.004	-.0007 0	.09	.39	.15
3963	Br 1974	6.3	31 0.893	68.0	+2.7216+.0038	+.002	-.0053 0	.12	.51	.25
3964	$\omega$ Lupi	4.3	31 18.860	85.6	+4.0249+.0341	-.008	-.0144- 1	.14	.84	.25
3965	L 6437	5.5	31 23.492	92.3	+4.4342+.0513	-.012	-.0036 0	.16	1.00	.24
3966	Br 1971	6.8	31 25.760	69.0	+3.0745+.0082	.000	-.0021 0	.12	.52	.25
3967	$\mu$ Coronæ Bor	5.5	31 34.737	63.0	+2.2010+.0021	+.002	+.0024 0	.11	.36	.20
3968	Pi 126	5.6	31 41.207	68.6	+2.8797+.0055	+.001	+.0020+ 1	.15	.63	.30
3969	Br 1976	7.1	31 50.201	73.7	+2.7773+.0042	+.001	-.0006 0	.09	.36	.16
3970	Br 1977	6.1	31 52.752	68.7	+2.7617+.0040	+.001	+.0044 0	.13	.57	.27
3971	Yarn 6539	6.0	31 55.183	96.8	+3.5189+.0178	-.003	-.0022 0	.12	.99	.18
3972	Groomb 2254	7.7	32 14.702	64.2	+1.7973+.0051	.000	-.0006 0	.20	.69	.37
3973	$\tau$ Libræ	3.7	32 30.758	76.5	+3.6742+.0220	-.005	-.0018 0	.09	.39	.16
3974	Br 1975	5.7	33 9.090	80.4	+3.4473+.0156	-.003	+.0066+ 1	.09	.51	.17
3975	Paris 19426	7.0	33 16.056	94.6	+3.2334+.0110	-.001	+.0015 0	.12	.90	.19
3976	Dpt 1736	6.7	33 16.153	86.0	+3.2334+.0110	-.001	+.0016 0	.12	.45	.16
3977	Groomb 2257	6.0	33 22.784	87.4	+1.5393+.0087	-.003	-.0041+ 1	.13	.50	.17
3978	L 6463	4.7	33 24.814	80.7	+3.7989+.0255	-.006	+.0010 0	.09	.48	.17
3979	$\phi$ Bootis	5.4	34 14.102	76.3	+2.1538+.0022	+.002	+.0055- 1	.05	.28	.11
3980	L 6464	4.8	34 18.798	82.6	+4.1057+.0371	-.010	-.0172+ 2	.11	.68	.22
3981	Br 1978	5.2	34 22.075	75.6	+3.5383+.0180	-.004	-.0016 0	.07	.32	.13
3982	$\theta$ Ursæ Min	5.4	34 22.538	74.4	-1.8674+.1898	-.195	-.0137+ 3	.05	.30	.12
3983	Groomb 2275	6.9	34 58.919	67.4	-3.6572+.3739	-.447	-.0899+ 8	.08	.38	.18
3984	Groomb 2258	7.1	34 59.401	83.1	+2.0340+.0030	+.001	-.0001 0	.12	.44	.17
3985	Pi 153	6.0	35 4.029	68.8	+1.9194+.0042	.000	+.0082+ 1	.10	.46	.22
3986	Groomb 2276	7.7	35 11.628	71.8	-3.6568+.3737	-.446	-.0840+ 7	.09	.52	.22
3987	L 6470	6.3	35 22.881	94.8	+4.3183+.0445	-.013	-.0027 0	.16	1.17	.24
3988	$\xi^2$ Coronæ Bor	5.1	35 36.720	73.3	+2.2589+.0022	+.002	-.0009 0	.05	.30	.12
3989	L 6486	5.4	36 8.213	85.6	+3.8857+.0280	-.008	-.0048 0	.13	.63	.20
3990	$\kappa$ Libræ	5.1	36 11.007	72.6	+3.4492+.0157	-.004	-.0032+ 1	.06	.26	.11
3991	Br 1980	4.9	36 18.555	81.3	+3.8105+.0255	-.007	-.0026 0	.12	.62	.21
3992	Br 1983	6.2	36 23.255	77.7	+2.7565+.0041	+.001	+.0017 0	.09	.40	.16
3993	$\chi$ Serpentis	5.3	37 5.020	81.0	+2.8210+.0048	+.001	+.0025 0	.11	.38	.16
3994	$\iota$ Serpentis <i>m</i>	4.6	37 5.481	69.1	+2.6725+.0036	+.002	-.0051 0	.09	.34	.16
3995	Br 1988	6.1	37 24.688	68.2	+2.6974+.0036	+.002	-.0056 0	.10	.36	.18
3996	Br 1987	6.8	37 48.353	61.1	+3.3570+.0134	-.003	-.0011+ 1	.12	.64	.34
3997	$\eta$ Libræ	5.7	38 26.771	70.3	+3.3688+.0136	-.003	-.0027 0	.06	.26	.12
3998	$\gamma$ Coronæ Bor	3.8	38 32.593	72.2	+2.5188+.0026	+.002	-.0075 0	.05	.28	.12
3999	L 6477 <i>m</i>	5.9	38 45.970	87.7	+5.4231+.1015	-.028	-.0019+ 1	.20	.88	.28
4000	$\psi$ Serpentis	6.1	15 39 0.000	64.0	+3.0126+.0073	+.001	-.0057+ 1	.14	.51	.27

3954 h 4788. 8<sup>m</sup> 2<sup>s</sup>.4 359<sup>o</sup>.3978 Br 1972. 119 G Lupi  $\psi$ , 3 Lupi  $\gamma$ , etc.3956 8<sup>m</sup> fols. 2<sup>s</sup>.4, S 89<sup>o</sup>.3983-6  $\Sigma$  1972. 31<sup>o</sup> 81<sup>o</sup>.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
3951	-27 42 36.69	75.3	-12.349+.423	+.18	-.045 0	.12	.49	.21	36 Libræ
3952	- 9 43 18.87	73.6	-12.541+.384	+.13	-.248+ 2	.06	.26	.11	37 Libræ
3953	+31 41 47.26	76.0	-12.306+.284	+.06	-.026 0	.05	.32	.12	
3954	-44 37 24.74	79.6	-12.312+.479	+.25	-.039 0	.13	.73	.26	114 G Lupi d *
3955	- 8 50 49.17	83.0	-12.294+.378	+.13	-.024 0	.10	.50	.17	
3956	-73 6 58.49	82.4	-12.273+.761	+.84	-.018 0	.15	.63	.23	33 G Apodis $\kappa^2$ *
3957	-44 3 41.99	85.2	-12.296+.477	+.25	-.047 0	.15	.73	.24	115 G Lupi
3958	+64 32 41.82	74.6	-12.161+.099	+.06	+.076- 2	.08	.39	.16	
3959	-14 27 22.03	72.0	-12.210+.393	+.14	-.001 0	.05	.22	.10	
3960	+10 52 23.00	67.8	-12.194+.336	+.09	+.008 0	.06	.27	.13	See Appendix
3961	+27 3 3.74	66.1	-12.274+.300	+.07	-.102+ 1	.02	.10	.05	
3962	-27 48 13.97	75.0	-12.143+.427	+.18	-.005 0	.08	.34	.14	39 Libræ, etc.
3963	+17 59 18.12	64.0	-12.162+.320	+.07	-.029- 1	.11	.48	.25	15 Serpentis $\tau^3$
3964	-42 14 20.83	78.8	-12.051+.471	+.24	+.061- 2	.11	.52	.20	12 <sup>M</sup> 12'' 27°
3965	-52 2 33.95	88.9	-12.149+.520	+.30	-.042 0	.13	.73	.20	2 G Normæ
3966	- 0 13 47.07	70.6	-12.126+.362	+.11	-.022 0	.10	.42	.19	14 Serpentis (A <sup>1</sup> )
3967	+39 20 31.30	53.4	-12.100+.261	+.05	-.006 0	.10	.37	.23	
3968	+10 20 40.36	59.6	-12.222+.340	+.09	-.136 0	.12	.52	.29	16 Serpentis
3969	+15 25 54.64	69.8	-12.083+.328	+.08	-.007 0	.08	.31	.15	17 Serpentis $\tau^4$
3970	+16 27 0.22	61.4	-12.081+.327	+.08	-.008 0	.11	.50	.27	18 Serpentis $\tau^5$
3971	-22 48 35.84	94.8	-12.156+.414	+.16	-.086 0	.13	.93	.19	
3972	+50 1 48.13	56.8	-12.067+.214	+.04	-.020 0	.14	.51	.30	
3973	-29 26 55.85	73.3	-12.062+.433	+.18	-.033 0	.10	.39	.17	40 Libræ
3974	-18 58 21.50	77.6	-12.072+.409	+.15	-.088+ 1	.08	.40	.15	41 Libræ
3975	- 8 28 0.19	93.8	-11.997+.383	+.12	-.021 0	.11	1.01	.20	} $\Sigma$ 1962. 12'' 188°
3976	- 8 27 47.97	72.8	-11.999+.383	+.12	-.023 0	.10	.31	.15	
3977	+54 57 37.80	86.4	-11.984+.184	+.04	-.016 0	.13	.42	.16	*
3978	-34 5 7.79	78.5	-11.975+.450	+.19	-.009 0	.11	.52	.20	
3979	+40 40 43.79	73.0	-11.861+.258	+.05	+.047+ 1	.06	.28	.12	
3980	-44 19 48.19	77.0	-12.168+.485	+.24	-.266- 2	.10	.49	.19	121 G Lupi g
3981	-23 29 35.20	73.0	-11.926+.420	+.16	-.028 0	.07	.27	.12	42 Libræ
3982	+77 40 56.68	66.5	-11.892-.216	+.40	+.006- 2	.06	.24	.12	
3983	+80 46 49.37	63.2	-11.739-.436	+.87	+.116- 11	.08	.35	.18	See Groomb 2276 *
3984	+43 55 47.87	74.8	-11.859+.244	+.04	-.004 0	.11	.34	.16	
3985	+47 7 37.31	62.1	-11.987+.232	+.04	-.138+ 1	.10	.36	.20	
3986	+80 46 54.28	67.6	-11.730-.435	+.87	+.110- 10	.11	.63	.29	See Groomb 2275 *
3987	-49 10 3.58	91.0	-11.860+.513	+.28	-.033 0	.13	.79	.20	5 G Normæ
3988	+36 57 37.09	69.6	-11.819+.271	+.05	-.008 0	.05	.27	.12	See Appendix *
3989	-37 6 13.92	83.2	-11.797+.463	+.20	-.023- 1	.11	.53	.18	124 G Lupi h
3990	-19 21 17.39	69.8	-11.889+.412	+.15	-.119 0	.06	.25	.12	
3991	-34 23 21.73	79.3	-11.798+.455	+.19	-.037 0	.13	.64	.24	4 Lupi $\psi^2$ ; also 125 G
3992	+16 20 49.27	70.0	-11.778+.331	+.08	-.022 0	.09	.37	.17	19 Serpentis $\tau^6$
3993	+13 10 5.10	75.4	-11.731+.339	+.09	-.025 0	.10	.34	.16	
3994	+19 59 31.95	70.5	-11.761+.321	+.07	-.055- 1	.07	.26	.12	Hussey. 5 <sup>M</sup> 4-5 <sup>M</sup> 4 0''2 70°
3995	+18 46 56.68	65.6	-11.640+.324	+.07	+.043- 1	.09	.33	.17	22 Serpentis $\tau^7$
3996	-14 43 21.22	63.0	-11.765+.403	+.14	-.110 0	.12	.61	.31	
3997	-15 21 15.57	67.9	-11.687+.405	+.14	-.078 0	.06	.27	.13	
3998	+26 36 44.00	68.9	-11.572+.303	+.07	+.030- 1	.05	.25	.11	*
3999	-65 7 43.16	83.1	-11.632+.650	+.49	-.045 0	.15	.67	.23	13 G Trianguli Aust *
4000	+ 2 50 8.65	62.4	-11.720+.363	+.10	-.150- 1	.12	.52	.28	

3988  $\Sigma$  1965. 6<sup>M</sup>1 6'' 303°; see Appendix.3998  $\Sigma$  1967. 7<sup>M</sup>0 < 1'', binary, 80 yrs.  $\pm$ .3999 Rümik. 6<sup>M</sup>6-6<sup>M</sup>7 1''8 152°.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		M	h m s		s s	s	s	"	"	"
4001	$\alpha$ Serpentis	2.7	15 39 20.517	68.0	+2.9522+.0061	+ .001	+ .0090 0	.02	.11	.05
4002	Cape <sub>20</sub> 2831	7.8	39 52.645	78.4	+3.5632+.0181	- .005	- .0056 0	.11	.78	.27
4003	$\pi$ Coronæ Bor	5.8	40 2.817	84.6	+2.3631+.0024	+ .002	- .0028 0	.12	.40	.16
4004	Groomb 2270	5.6	40 7.544	74.7	+1.6295+.0072	- .002	- .0064 0	.10	.39	.17
4005	Br 1993	6.3	40 9.581	68.2	+2.7235+.0039	+ .002	- .0018 0	.10	.36	.18
4006	L 6514	5.8	40 20.897	83.8	+3.8207+.0251	- .008	- .0012 0	.14	.78	.25
4007	Paris 19594	5.8	40 26.805	91.6	+2.9633+.0064	+ .001	+ .0016 0	.13	.66	.18
4008	Br 1992	5.6	40 55.225	75.1	+3.0985+.0084	.000	- .0024 0	.13	.44	.20
4009	$\beta$ Serpentis	3.5	41 34.326	76.9	+2.7673+.0043	+ .001	+ .0049 0	.04	.18	.07
4010	$\lambda$ Serpentis	4.5	41 35.339	67.8	+2.9085+.0060	+ .001	- .0158 0	.09	.39	.19
4011	L 6520	6.0	42 31.767	86.0	+4.5270+.0508	- .018	- .0041 0	.18	.87	.28
4012	$\nu$ Serpentis	6.0	42 38.641	67.3	+2.7847+.0045	+ .001	- .0038 0	.13	.69	.32
4013	L 6524	5.9	43 20.375	87.6	+4.6384+.0553	- .020	+ .0013+ 1	.18	.94	.28
4014	Br 1999	5.8	43 42.479	62.6	+3.1378+.0089	- .001	- .0025 0	.13	.40	.23
4015	$\kappa$ Serpentis	4.2	44 14.288	81.6	+2.6992+.0039	+ .002	- .0032+ 1	.04	.26	.08
4016	$\mu$ Serpentis	3.4	44 24.040	77.7	+3.1270+.0088	- .001	- .0059 0	.04	.21	.08
4017	R Coronæ Bor	Var.	44 27.219	68.0	+2.4712+.0026	+ .002	+ .0003 0	.12	.75	.34
4018	$\chi$ Lupi	4.1	44 36.172	79.7	+3.8014+.0237	- .008	- .0007 0	.09	.42	.15
4019	Br 2000	4.8	44 57.780	76.0	+3.5994+.0183	- .005	- .0017 0	.09	.39	.16
4020	Groomb 2292 m	7.2	45 6.976	75.1	-3.4429+.3235	- .316	- .0145- 2	.09	.46	.19
4021	Pi 198	5.3	45 8.424	81.5	+0.9043+.0224	- .014	+ .0052+ 1	.05	.36	.11
4022	Pulk <sub>88</sub> 2278	6.1	45 12.988	72.4	+1.4446+.0100	- .004	+ .0012 0	.11	.64	.27
4023	$\omega$ Serpentis	5.4	45 14.605	60.9	+3.0260+.0072	.000	+ .0022 0	.15	.52	.30
4024	$\delta$ Coronæ Bor	4.7	45 24.021	71.8	+2.5152+.0029	+ .002	- .0055+ 1	.07	.36	.16
4025	$\kappa$ Trianguli Aust	5.4	45 36.497	77.2	+5.8685+.1240	- .045	- .0018+ 1	.14	.70	.27
4026	$\epsilon$ Serpentis	3.7	45 49.834	74.6	+2.9875+.0065	.000	+ .0083 0	.03	.18	.07
4027	L 6562	6.8	46 2.220	79.3	+3.6927+.0209	- .007	- .0123 0	.15	.72	.27
4028	Br 2004	5.2	46 3.024	71.6	+3.1204+.0087	- .001	- .0062 0	.10	.39	.18
4029	Paris 19722	6.6	46 3.185	95.6	+3.3443+.0125	- .003	- .0025 0	.12	.86	.17
4030	$\beta$ Trianguli Aust	2.8	46 19.676	71.2	+5.2436+.0872	- .033	- .0296+ 7	.11	.40	.19
4031	$\rho$ Serpentis	5.0	46 52.385	63.8	+2.6337+.0034	+ .002	- .0035 0	.09	.36	.19
4032	$\kappa$ Coronæ Bor	5.0	47 27.830	71.4	+2.2591+.0032	+ .002	- .0011+ 3	.08	.33	.15
4033	$\lambda$ Libræ	5.1	47 31.662	74.6	+3.4758+.0151	- .005	- .0010 0	.06	.30	.12
4034	Br 2006	4.7	47 36.408	70.8	+3.5942+.0178	- .006	- .0009 0	.09	.38	.17
4035	$\xi$ Ursæ Min	4.5	47 37.353	66.0	-2.2338+.2001	- .173	+ .0080- 2	.03	.15	.07
4036	L 6550	6.0	47 40.123	86.8	+5.0221+.0719	- .029	- .0044+ 2	.18	.94	.28
4037	Br 2009	5.6	47 55.401	77.9	+3.5742+.0173	- .006	- .0026 0	.10	.46	.18
4038	Pi 192	5.5	47 58.667	83.4	+3.5620+.0171	- .005	- .0019 0	.10	.62	.20
4039	$\theta$ Libræ	4.4	48 7.826	65.5	+3.4100+.0134	- .003	+ .0069- 1	.06	.30	.15
4040	Br 2016	6.3	48 32.578	68.7	+2.7915+.0054	+ .001	- .0111+ 3	.10	.38	.18
4041	Br 2012	6.2	48 39.221	82.6	+3.5937+.0177	- .006	- .0010 0	.11	.62	.20
4042	$\chi$ Herculis	4.7	49 13.063	65.5	+2.0735+.0018	+ .001	+ .0401- 8	.07	.27	.14
4043	Br 2015	6.2	49 13.506	71.8	+3.4598+.0146	- .005	- .0017 0	.13	.54	.24
4044	Br 2014	6.0	49 27.367	81.1	+3.6168+.0182	- .006	- .0038 0	.10	.51	.18
4045	L 6559	6.0	49 47.520	82.7	+5.4599+.0939	- .041	- .0007+ 1	.18	.78	.28
4046	Br 2019	6.5	49 50.316	64.2	+2.8962+.0056	+ .001	- .0002 0	.12	.48	.25
4047	Groomb 2288	6.2	49 56.958	59.4	+1.3919+.0105	- .005	- .0019- 1	.13	.57	.32
4048	Pi 212	6.0	50 10.180	65.0	+2.6432+.0035	+ .001	- .0052 0	.12	.57	.28
4049	$\xi^1$ Lupi	5.4	50 29.753	83.7	+3.8261+.0234	- .009	+ .0018 0	.11	.66	.21
4050	$\xi^2$ Lupi	6.0	15 50 30.425	82.9	+3.8269+.0234	- .009	+ .0026 0	.14	.86	.27

4013  $9^m.5$  fols.  $0^s.7$  N  $19''$ .4020  $\Sigma$  1989.  $8^m.2 < 0^s.7$ , binary, 100 yrs.  $\pm$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
4001	+ 6 44 24.14	66.6	-11.508+.358	+ .10	+ .038+ 1	.02	.11	.05	
4002	- 24 24 5.79	74.9	-11.575+.430	+ .16	- .068- 1	.12	.84	.32	
4003	+ 32 49 52.81	74.7	-11.520+.287	+ .05	- .025 0	.11	.34	.16	
4004	+ 52 40 34.73	68.0	-11.467+.199	+ .04	+ .022- 1	.09	.32	.16	
4005	+ 17 34 42.54	65.0	-11.501+.330	+ .07	- .014 0	.09	.33	.17	26 Serpentis $\tau^B$
4006	- 34 22 9.66	80.0	-11.495+.462	+ .19	- .022 0	.14	.73	.26	128 G Lupi
4007	+ 5 45 39.32	94.8	-11.489+.359	+ .10	- .023 0	.13	.88	.19	
4008	- 1 29 27.55	75.0	-11.473+.376	+ .11	- .041 0	.10	.37	.16	25 Serpentis $A^2$
4009	+ 15 44 4.48	74.5	-11.442+.338	+ .08	- .057+ 1	.04	.22	.09	$\Sigma$ 1970. 9 <sup>M</sup> 31" 265°
4010	+ 7 39 58.70	66.5	-11.448+.352	+ .09	- .064- 2	.09	.34	.18	
4011	- 52 54 7.41	81.9	-11.355+.549	+ .30	- .039 0	.14	.65	.23	12 G Normæ
4012	+ 14 25 24.43	61.4	-11.281+.339	+ .08	+ .027 0	.14	.63	.34	
4013	- 54 45 2.40	84.5	-11.293+.565	+ .32	- .035 0	.14	.73	.23	14 G Normæ *
4014	- 3 30 43.63	66.2	-11.227+.383	+ .11	+ .004 0	.11	.43	.22	30 Serpentis
4015	+ 18 27 0.61	77.9	-11.294+.331	+ .07	- .101 0	.04	.24	.09	
4016	- 3 7 27.59	80.1	-11.209+.382	+ .11	- .028- 1	.04	.27	.09	
4017	+ 28 27 47.86	63.0	-11.195+.304	+ .06	- .018 0	.11	.64	.32	6 <sup>M</sup> to 13 <sup>M</sup>
4018	- 33 19 21.08	76.0	-11.194+.465	+ .19	- .028 0	.09	.41	.16	
4019	- 25 26 50.57	73.5	-11.175+.441	+ .16	- .035 0	.08	.33	.14	1 Scorpii $\delta$
4020	+ 80 17 48.26	61.7	-11.093-.415	+ .78	+ .036- 2	.09	.38	.20	18 Ursæ Min *
4021	+ 62 54 30.87	78.6	-11.187+.115	+ .05	- .060+ 1	.05	.25	.09	
4022	+ 55 40 58.33	72.8	-11.119+.180	+ .04	+ .003 0	.11	.60	.25	
4023	+ 2 30 5.56	63.9	-11.175+.372	+ .10	- .055 0	.12	.54	.28	
4024	+ 26 22 27.42	67.8	-11.189+.309	+ .06	- .081- 1	.06	.28	.13	
4025	- 68 18 17.23	76.2	-11.113+.717	+ .58	- .020 0	.12	.56	.22	
4026	+ 4 46 42.72	75.3	-11.020+.369	+ .10	+ .057+ 1	.03	.19	.07	
4027	- 29 34 59.87	70.5	-11.167+.452	+ .17	- .105- 2	.13	.63	.28	133 G Lupi
4028	- 2 47 16.67	69.8	-11.095+.383	+ .11	- .034- 1	.08	.34	.16	36 Serpentis $\delta$
4029	- 13 49 54.82	92.8	-11.087+.411	+ .13	- .026 0	.13	.77	.19	
4030	- 63 7 18.65	73.9	-11.429+.639	+ .43	- .388- 4	.08	.40	.17	
4031	+ 21 16 41.53	55.5	-11.001+.325	+ .07	.000 0	.08	.26	.16	
4032	+ 35 58 2.52	64.5	-11.322+.280	+ .05	- .364 0	.07	.29	.15	
4033	- 19 52 5.47	69.9	-10.987+.429	+ .14	- .034 0	.06	.26	.12	
4034	- 25 1 42.93	68.6	-10.979+.444	+ .15	- .032 0	.08	.31	.15	2 Scorpii $A^*$
4035	+ 78 6 7.92	66.6	-10.949-.267	+ .46	- .003+ 1	.03	.12	.06	
4036	- 60 11 6.28	84.2	-11.031+.618	+ .38	- .088 0	.14	.77	.24	19 G Trianguli Aust
4037	- 24 14 6.61	79.5	-10.953+.441	+ .15	- .029 0	.10	.49	.18	4 G Scorpii
4038	- 23 40 48.91	84.1	-10.959+.440	+ .15	- .039 0	.10	.49	.16	5 G Scorpii
4039	- 16 26 9.50	66.0	-10.789+.422	+ .13	+ .120+ 1	.06	.23	.12	
4040	+ 13 30 34.31	66.7	-11.441+.345	+ .08	- .563- 1	.08	.35	.17	39 Serpentis
4041	- 24 56 50.29	79.6	-10.901+.444	+ .15	- .031 0	.10	.49	.18	3 Scorpii
4042	+ 42 43 52.25	65.6	-10.210+.264	+ .04	+ .619+ 5	.07	.27	.14	
4043	- 19 5 16.26	71.3	-10.867+.429	+ .14	- .039 0	.13	.47	.22	47 Libræ
4044	- 25 58 16.21	81.2	-10.832+.448	+ .15	- .021 0	.11	.55	.19	4 Scorpii
4045	- 64 44 49.92	82.9	-10.815+.676	+ .46	- .029 0	.15	.69	.24	20 G Trianguli Aust, also $\lambda$
4046	+ 8 52 28.70	64.0	-10.797+.360	+ .09	- .014 0	.12	.49	.26	40 Serpentis
4047	+ 56 7 19.54	55.1	-10.719+.176	+ .04	+ .056 0	.11	.51	.30	
4048	+ 20 36 14.25	62.2	-10.720+.329	+ .07	+ .039- 1	.12	.55	.29	
4049	- 33 40 24.74	79.8	-10.786+.476	+ .18	- .052 0	.10	.52	.19	} 11" 48°
4050	- 33 40 17.51	75.5	-10.780+.476	+ .18	- .046 0	.13	.69	.27	

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
4051	Grw <sub>16</sub> 296	6.7	15	50	37.904	88.4	+3.3579+.0125	-.003	+.0018+ 1	.12	.52	.17
4052	$\rho$ Scorpii	4.0		50	42.525	75.0	+3.6954+.0199	-.008	-.0010 0	.08	.33	.14
4053	Dpt 1756	7.2		50	43.811	78.6	+3.1030+.0083	-.001	-.0062 0	.09	.45	.17
4054	Br 2025	5.7		51	17.764	67.0	+1.9972+.0034	+.001	-.0043 0	.10	.48	.23
4055	$\gamma$ Serpentis	3.8		51	50.019	71.3	+2.7688+.0057	+.001	+.0210+ 7	.04	.20	.08
4056	Br 2028	5.8		52	8.594	78.4	+2.0182+.0035	.000	-.0021 0	.09	.36	.15
4057	$\lambda$ Coronæ Bor	5.7		52	9.322	76.0	+2.1826+.0027	+.001	+.0037- 1	.09	.36	.15
4058	L 6621	5.6		52	34.942	83.4	+3.5875+.0171	-.006	-.0032 0	.13	.90	.27
4059	Br 2022	4.8		52	35.291	79.0	+3.3542+.0122	-.004	-.0010 0	.07	.34	.12
4060	$\phi$ Serpentis	5.8		52	37.730	66.6	+2.7668+.0044	+.001	-.0077 0	.15	.64	.32
4061	L 6609	5.2		52	41.802	86.0	+4.0785+.0303	-.013	+.0031 0	.16	.98	.29
4062	$\pi$ Scorpii	2.9		52	48.069	78.4	+3.6210+.0178	-.006	-.0011 0	.06	.27	.10
4063	$\epsilon$ Coronæ Bor	4.2		53	26.812	79.9	+2.4820+.0031	+.001	-.0064+ 1	.04	.26	.09
4064	$\eta$ Lupi	3.6		53	29.612	81.8	+3.9633+.0268	-.011	-.0017 0	.10	.45	.16
4065	Groomb 2315	7.7		53	46.94	81.4	-6.540+.706		+.0091- 5	.07	.38	.13
4066	$\delta$ Scorpii	2.3		54	25.155	73.6	+3.5402+.0158	-.006	-.0009 0	.04	.20	.08
4067	Br 2026	5.7		54	42.809	76.6	+3.3609+.0133	-.004	-.0440+ 2	.06	.27	.11
4068	L 6573	5.9		54	46.828	87.3	+6.6028+.1639	-.085	-.0102- 6	.18	.81	.26
4069	Pi 239	6.0		55	16.085	75.7	+2.2147+.0028	+.001	+.0017 0	.10	.57	.22
4070	Br 2030	5.7		55	23.629	72.6	+3.2346+.0100	-.003	-.0011 0	.10	.46	.20
4071	L 6615 <i>m</i>	4.9		55	23.876	89.6	+4.8535+.0596	-.030	-.0137+ 1	.16	.96	.26
4072	Groomb 2296	5.1		55	25.000	85.2	+1.4183+.0096	-.004	-.0186 0	.05	.36	.10
4073	$\eta$ Normæ	4.7		55	51.708	87.5	+4.3903+.0399	-.019	+.0029 0	.20	.87	.28
4074	Br 2031	6.2		55	53.248	76.5	+2.9749+.0064	-.001	-.0031 0	.09	.32	.14
4075	Br 2032	5.4		56	44.681	77.0	+2.6936+.0038	+.001	-.0037- 1	.07	.30	.12
4076	L 6644	5.2		56	45.044	86.4	+3.9774+.0265	-.012	-.0022 0	.13	.69	.21
4077	$\rho$ Coronæ Bor	5.5		57	13.189	66.7	+2.2916+.0042	+.001	-.0171+ 7	.08	.34	.17
4078	Pi 237	5.3		57	17.955	77.0	+3.6177+.0173	-.007	-.0050 0	.12	.54	.22
4079	Br 2063	7.2		57	23.571	73.6	-1.4866+.1288	-.090	+.0051+ 1	.09	.50	.20
4080	$\iota$ Coronæ Bor	5.1		57	26.206	84.2	+2.4021+.0029	+.001	-.0029 0	.11	.48	.16
4081	$\pi$ Serpentis	4.9		57	59.297	75.3	+2.5821+.0033	+.001	+.0005 0	.10	.44	.18
4082	$\xi^1$ Scorpii <i>m</i>	4.2		58	52.103	71.5	+3.2945+.0108	-.003	-.0042 0	.09	.39	.17
4083	$\xi^2$ Scorpii	7.5		58	52.568	95.2	+3.2936+.0108	-.003	-.0051 0	.14	.87	.19
4084	$\delta$ Normæ	4.8		59	25.309	74.7	+4.2242+.0331	-.018	+.0001 0	.12	.54	.22
4085	Groomb 2302	6.3		59	32.357	71.2	+1.5265+.0084	-.003	-.0009+ 1	.11	.51	.23
4086	$\beta^1$ Scorpii	2.6		59	37.266	67.6	+3.4817+.0141	-.006	-.0008 0	.03	.16	.08
4087	$\beta^2$ Scorpii	5.5		59	37.680	73.6	+3.4810+.0141	-.006	-.0016 0	.08	.44	.18
4088	Pi 266	6.1		59	38.756	74.9	+2.2050+.0030	+.001	+.0011 0	.12	.69	.27
4089	$\nu$ Herculis	4.8	15	59	40.980	68.0	+1.8671+.0048	.000	+.0055 0	.09	.34	.17
4090	$\theta$ Draconis	4.1	16	0	0.875	69.5	+1.1186+.0136	-.007	-.0401- 4	.03	.15	.07
4091	$\theta$ Lupi	4.4		0	1.448	82.8	+3.9281+.0244	-.012	-.0017 0	.09	.40	.14
4092	L 6689	6.1		0	8.423	91.8	+3.5701+.0158	-.007	-.0017 0	.11	.70	.17
4093	$\omega^1$ Scorpii	4.1		0	57.373	60.8	+3.5032+.0144	-.006	-.0005 0	.10	.36	.20
4094	L 6665	5.9		1	5.171	87.6	+4.9019+.0581	-.035	-.0038+ 1	.18	.94	.28
4095	$\omega^2$ Scorpii	4.5		1	32.364	66.6	+3.5120+.0145	-.006	+.0030 0	.07	.32	.15
4096	Pi 265	5.8		2	1.840	78.2	+3.6502+.0170	-.007	+.0090 0	.09	.51	.19
4097	Br 2042	5.8		2	3.129	76.7	+3.3261+.0112	-.004	-.0036 0	.08	.38	.15
4098	Br 2045	5.9		2	51.040	73.5	+2.8618+.0052	.000	-.0017 0	.10	.34	.16
4099	Br 2046	7.1		3	19.695	80.9	+2.8569+.0052	.000	-.0024 0	.12	.38	.16
4100	L 6711	5.8	16	3	27.811	85.4	+3.8357+.0214	-.010	-.0029 0	.12	.69	.21

4071 Sec. 5<sup>M</sup>6-5<sup>M</sup>8 0<sup>h</sup>6 250°; 9<sup>M</sup> 11<sup>h</sup> 250°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu' \delta 10$	Remarks.
	° ' "		" "	"	"	" " "	
4051	-14 6 19.84	84.6	-10.829+.418	+13	-.105 0	.12 .54 .18	
4052	-28 55 19.61	73.9	-10.749+.460	+17	-.030 0	.08 .34 .15	
4053	-1 52 13.36	73.4	-10.782+.386	+10	-.065-1	.07 .29 .13	$\Sigma$ 1985. 8 <sup>m</sup> 6" 338°
4054	+43 25 47.03	63.5	-10.617+.250	+04	+.058 0	.08 .35 .18	2 Hercules
4055	+15 59 15.99	72.1	-11.933+.349	+07	-1.297+3	.04 .20 .09	
4056	+42 51 24.53	72.0	-10.613+.254	+04	.000 0	.08 .28 .13	4 Hercules
4057	+38 14 8.29	70.6	-10.540+.275	+05	+.072 0	.09 .29 .14	
4058	-24 32 35.65	78.1	-10.608+.448	+15	-.028 0	.14 .91 .32	11 G Scorpil
4059	-13 59 27.58	69.0	-10.611+.420	+12	-.031 0	.06 .26 .12	48 Libræ
4060	+14 42 3.04	61.7	-10.502+.346	+07	+.074-1	.14 .64 .34	
4061	-41 27 26.94	84.4	-10.592+.510	+22	-.021 0	.14 .85 .26	144 G Lupi
4062	-25 49 34.63	75.2	-10.600+.453	+15	-.036 0	.06 .26 .11	
4063	+27 10 2.11	76.2	-10.584+.312	+06	-.068-1	.04 .27 .10	Clark. 11 <sup>m</sup> 2" 353°
4064	-38 6 39.20	77.5	-10.551+.496	+20	-.039 0	.09 .39 .15	Rümck. 8 <sup>m</sup> 15" 21°
4065	+83 14 57.82	84.0	-10.487-.807		+.004+1	.08 .43 .14	
4066	-22 20 14.07	73.9	-10.482+.445	+14	-.039 0	.04 .19 .08	
4067	-16 14 20.16	76.6	-10.821+.418	+13	-.400-5	.06 .28 .11	47 Libræ
4068	-72 7 30.27	90.3	-10.339+.826	+74	+.077-1	.16 .98 .25	38 G Apodis
4069	+36 55 38.66	73.5	-10.356+.281	+05	+.024 0	.09 .46 .19	
4070	-8 7 43.14	74.5	-10.400+.408	+11	-.030 0	.10 .41 .18	50 Libræ
4071	-57 29 36.41	85.8	-10.467+.608	+34	-.097-2	.12 .69 .21	28 G Normæ *
4072	+55 1 55.87	81.1	-10.261+.179	+04	+.108-2	.06 .36 .12	
4073	-48 57 2.46	81.3	-10.343+.553	+25	-.008 0	.14 .63 .23	
4074	+4 42 25.37	75.0	-10.267+.376	+09	+.066 0	.10 .31 .14	
4075	+18 5 40.22	73.4	-10.125+.341	+07	+.144 0	.06 .26 .12	5 Hercules r
4076	-38 19 24.74	85.9	-10.304+.502	+19	-.035 0	.12 .59 .19	151 G Lupi
4077	+33 36 18.16	64.4	-11.014+.289	+05	-.781-2	.07 .33 .16	
4078	-25 35 11.24	76.7	-10.270+.457	+14	-.043-1	.12 .51 .21	15 G Scorpil
4079	+75 51 39.13	69.8	-10.240-.182	+29	-.020+1	.09 .33 .16	17 Ursæ Min
4080	+30 7 50.59	77.6	-10.241+.305	+05	-.024 0	.10 .35 .15	
4081	+23 4 54.42	72.0	-10.160+.329	+06	+.015 0	.08 .33 .15	
4082	-11 5 50.80	70.0	-10.143+.419	+11	-.034 0	.08 .30 .14	} * 7" 63°
4083	-11 5 47.47	91.8	-10.136+.418	+11	-.028-1	.12 .73 .18	
4084	-44 54 6.83	74.9	-10.050+.537	+22	+.017 0	.10 .47 .19	
4085	+53 11 36.62	69.3	-10.095+.197	+04	-.037 0	.11 .50 .23	
4086	-19 31 54.72	67.1	-10.081+.443	+13	-.029 0	.03 .16 .08	} $\beta$ 947. 10 <sup>m</sup> 1" 94°; 5 <sup>m</sup> 14" 25°
4087	-19 31 41.90	65.2	-10.077+.443	+13	-.025 0	.06 .28 .14	
4088	+36 54 26.79	71.1	-10.072+.282	+05	-.022 0	.10 .53 .23	
4089	+46 18 50.96	59.8	-10.115+.240	+04	-.068+1	.07 .27 .15	
4090	+58 49 55.97	65.5	-9.684+.140	+04	+.338-5	.04 .15 .08	
4091	-36 31 48.08	77.2	-10.057+.500	+19	-.035 0	.09 .36 .15	
4092	-23 20 2.02	86.3	-10.061+.455	+14	-.048 0	.11 .61 .18	19 G Scorpil
4093	-20 23 54.51	59.4	-9.984+.448	+13	-.033 0	.09 .32 .19	
4094	-57 39 54.76	82.8	-9.999+.624	+33	-.058 0	.14 .67 .23	36 G Normæ *
4095	-20 35 55.48	66.6	-9.963+.450	+13	-.056 0	.07 .28 .14	
4096	-26 3 31.66	79.0	-9.871+.468	+14	-.002+1	.09 .43 .16	25 G Scorpil
4097	-12 28 35.70	76.0	-9.906+.426	+11	-.038 0	.08 .37 .15	11 Scorpil *
4098	+10 9 33.18	74.4	-9.821+.368	+08	-.014 0	.11 .32 .16	45 Serpenti
4099	+10 20 50.95	76.9	-9.800+.368	+08	-.030 0	.11 .35 .16	46 Serpenti
4100	-33 16 49.32	83.5	-9.815+.492	+17	-.055 0	.12 .60 .20	30 G Scorpil

4082  $\Sigma$  1998. 4<sup>m</sup> 8-5<sup>m</sup> 2 1", binary, 45 yrs.  $\pm$ .4097  $\beta$  39. 10<sup>m</sup> 3" 258°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m	s				s	o	"	"	"
4101	$\kappa$ Herculis	5.1	16	3	33.670	72.5	+2.7053+	.0041	+ .001	— .0031	0	.06	.27	.12
4102	Br 2050	6.6		3	34.083	76.8	+2.7062+	.0041	+ .001	— .0020	0	.09	.36	.15
4103	Br 2047	6.1		3	38.699	80.0	+2.8904+	.0055	.000	— .0011	0	.11	.39	.16
4104	Br 2054	6.4		4	16.105	82.6	+2.7023+	.0041	+ .001	— .0019	0	.12	.40	.16
4105	L 6715	6.2		4	28.563	91.6	+4.0744+	.0278	— .015	— .0100+	1	.13	.75	.19
4106	Paris 20211	5.6		4	36.488	93.1	+3.1375+	.0082	— .002	— .0004	0	.13	.80	.19
4107	Pi 280	5.3		4	49.160	79.4	+3.7171+	.0186	— .010	— .0085	0	.12	.57	.21
4108	$\tau$ Coronæ Bor	5.1		5	18.876	65.6	+2.1919+	.0026	+ .001	— .0050—	3	.07	.32	.16
4109	$\delta^1$ Apodis	4.9		5	23.576	78.8	+8.8018+	.3371	— .274	— .0062+	4	.07	.54	.18
4110	$\delta^2$ Apodis	5.4		5	30.773	86.0	+8.7965+	.3356	— .273	+ .0010+	5	.13	.88	.25
4111	$\kappa$ Normæ	5.2		5	35.370	89.2	+4.7080+	.0479	— .031	— .0016+	1	.15	.94	.25
4112	$\phi$ Herculis	4.3		5	37.120	76.1	+1.8887+	.0045	.000	— .0021	0	.04	.26	.10
4113	Groomb 2320	5.5		6	2.911	75.8	+0.1478+	.0400	— .024	— .0064—	2	.06	.34	.13
4114	Br 2051	5.8		6	5.123	78.7	+3.6983+	.0178	— .009	— .0027	0	.12	.50	.19
4115	Br 2052	4.8		6	8.509	81.4	+3.6862+	.0175	— .009	— .0021	0	.08	.39	.14
4116	Pi 3 <i>n.p.</i>	7.5		6	9.822	76.0	+3.4810+	.0134	— .006	— .0003	0	.11	.60	.23
4117	$\nu$ Scorpil <i>m</i>	4.2		6	10.930	70.1	+3.4807+	.0134	— .006	— .0008	0	.05	.26	.11
4118	$\delta$ Trianguli Aust	4.1		6	19.979	78.6	+5.4231+	.0783	— .055	+ .0004	0	.14	.52	.22
4119	$\psi$ Scorpil	5.0		6	31.968	72.6	+3.2753+	.0100	— .004	— .0003	0	.09	.36	.16
4120	Br 2057	5.6		6	42.114	68.7	+3.2463+	.0095	— .003	+ .0026	0	.12	.48	.23
4121	Radcl 3524	5.9		6	49.364	84.4	— 2.0543+	.1532	— .086	— .0047	0	.13	.63	.21
4122	Br 2060	6.3		6	57.067	72.0	+2.7144+	.0041	+ .001	+ .0002	0	.10	.45	.20
4123	Radcl 3513	6.5		7	5.198	84.2	+1.1707+	.0134	— .007	— .0026	0	.10	.62	.19
4124	Br 2068	6.8		7	9.696	66.6	+1.9431+	.0048	.000	+ .0115+	3	.09	.34	.17
4125	Br 2064	6.3		7	22.634	66.6	+2.5522+	.0034	+ .001	— .0016	0	.12	.52	.26
4126	L 6722	5.9		7	33.796	84.8	+4.9323+	.0558	— .039	— .0017+	1	.18	.78	.27
4127	Pi 10	7.1		7	47.616	77.5	+3.5196+	.0140	— .006	— .0089	0	.09	.46	.18
4128	$\theta$ Normæ	5.3		7	59.633	87.2	+4.3400+	.0344	— .022	— .0029+	1	.18	.87	.27
4129	Pi 25	6.0		8	8.703	71.8	+2.1927+	.0032	+ .001	— .0003	0	.13	.70	.30
4130	Br 2062	5.8		8	18.529	82.4	+2.9663+	.0061	— .001	+ .0030	0	.12	.40	.16
4131	$\chi$ Scorpil	5.5		8	18.936	65.8	+3.3134+	.0105	— .004	— .0010	0	.15	.46	.26
4132	Br 2066 <i>m</i>	7.1		8	38.628	69.3	+2.7938+	.0051	+ .001	+ .0116+	2	.10	.36	.18
4133	L 6735	5.7		8	53.533	91.0	+4.6732+	.0451	— .031	— .0006	0	.20	1.05	.28
4134	$\delta$ Ophiuchi	2.7		9	6.260	71.4	+3.1401+	.0082	— .002	— .0033+	1	.02	.14	.06
4135	L 6746	5.0		9	31.562	85.4	+4.4739+	.0380	— .026	— .0006	0	.16	.92	.28
4136	Br 2069	7.0		9	51.696	89.4	+2.9021+	.0055	— .001	— .0014	0	.13	.50	.16
4137	Br 2067	5.6		10	11.078	67.6	+3.2565+	.0099	— .004	+ .0153+	3	.09	.32	.16
4138	$\sigma$ Coronæ Bor <i>c.g.</i>	5.7		10	55.952	77.6	+2.2445+	.0034	+ .001	— .0232+	2			
4139	Br 2072	6.1		11	2.767	70.0	+2.6580+	.0040	.000	— .0038+	1	.14	.54	.26
4140	Pi 28	7.0		11	8.354	74.4	+3.4995+	.0133	— .007	— .0020	0	.12	.54	.23
4141	Br 2071	7.7		11	17.207	85.4	+2.8233+	.0048	— .001	— .0034	0	.12	.45	.16
4142	Br 2075	6.9		12	0.844	79.6	+2.5566+	.0035	.000	— .0011	0	.10	.42	.16
4143	Pi 31	5.0		12	5.681	78.3	+3.7128+	.0174	— .010	— .0026+	1	.11	.46	.18
4144	$\lambda$ Normæ <i>m</i>	5.7		12	19.923	88.4	+4.1607+	.0278	— .018	— .0009	0	.15	.90	.25
4145	L 6764	4.1		12	21.317	79.2	+4.4701+	.0373	— .027	— .0180	0	.10	.51	.19
4146	$\nu$ Coronæ Bor	5.9		12	44.378	68.7	+2.4011+	.0031	.000	+ .0008	0	.10	.40	.19
4147	$\epsilon$ Ophiuchi	3.1		13	1.757	76.2	+3.1705+	.0081	— .003	+ .0053	0	.03	.18	.07
4148	Pi 35	7.2		13	11.928	86.0	+3.7842+	.0184	— .011	+ .0041	0	.13	.75	.22
4149	L 6788	5.9		13	13.064	78.1	+3.7855+	.0184	— .011	+ .0052	0	.10	.51	.19
4150	Pi 39	6.6	16	13	16.259	75.9	+3.5071+	.0132	— .007	+ .0007	0	.12	.56	.22

4114 h 4839. 9<sup>m</sup> 4" 77°.4132  $\Sigma$  2021. 7<sup>m</sup> 8—8<sup>m</sup> 0 4" 334°, very slow.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
4101	+17 18 47.34	68.5	- 9.768+.348	+ .07	-.014 0	.06	.24	.12	Σ 2010. 30" 11"
4102	+17 19 16.47	74.7	- 9.791+.348	+ .07	-.039 0	.07	.33	.14	
4103	+ 8 47 59.80	77.8	- 9.764+.372	+ .08	-.018 0	.10	.37	.16	
4104	+17 28 15.60	76.3	- 9.736+.349	+ .07	-.038 0	.11	.35	.16	
4105	-40 51 16.95	89.9	- 9.811+.523	+ .19	-.129- 1	.12	.58	.17	
4106	- 3 12 12.97	90.4	- 9.687+.404	+ .09	-.015 0	.11	.69	.17	35 G Scorpii β 1087. 13 <sup>m</sup> 3" 171°, fixed
4107	-29 9 8.26	74.0	- 9.750+.478	+ .16	-.094- 1	.10	.40	.18	
4108	+36 44 41.09	65.6	- 9.299+.284	+ .04	+ .319- 1	.06	.30	.15	
4109	-78 26 37.40	78.8	- 9.650+1.129	+1.36	-.037- 1	.06	.52	.17	
4110	-78 24 57.16	82.3	- 9.635+1.130	+1.36	-.032 0	.11	.61	.20	
4111	-54 22 18.30	87.1	- 9.640+.606	+ .29	-.043 0	.11	.73	.20	12 Scorpii c <sup>1</sup> * 13 Scorpii c <sup>2</sup> { Mitchel. 7 <sup>m</sup> 9-8 <sup>m</sup> 9 2" 46° β 120. 4 <sup>m</sup> 4-5 <sup>m</sup> 9 0" 8 3°
4112	+45 11 48.72	77.8	- 9.572+.245	+ .04	+ .023 0	.04	.24	.09	
4113	+68 4 24.73	72.7	- 9.504+.022	+ .08	+ .058- 1	.05	.27	.11	
4114	-28 9 26.36	77.3	- 9.614+.477	+ .14	-.055 0	.11	.46	.19	
4115	-27 40 1.20	77.7	- 9.593+.476	+ .14	-.038 0	.09	.34	.14	
4116	-19 11 24.92	72.6	- 9.566+.450	+ .12	-.013 0	.09	.47	.20	16 Scorpii (48 Serpentis) (Herculis q)
4117	-19 12 3.32	68.9	- 9.584+.450	+ .13	-.032 0	.05	.25	.12	
4118	-63 25 48.14	78.4	- 9.558+.700	+ .41	-.018 0	.11	.47	.19	
4119	- 9 48 18.98	68.9	- 9.551+.424	+ .11	-.027 0	.09	.31	.15	
4120	- 8 17 21.86	69.1	- 9.528+.421	+ .11	-.016 0	.10	.42	.20	
4121	+77 3 38.05	86.2	- 9.495-.260	+ .36	+ .007- 1	.12	.52	.17	14 Herculis 10 Herculis 41 G Normæ 42 G Scorpii
4122	+16 55 27.09	68.0	- 9.506+.352	+ .07	-.014 0	.10	.40	.20	
4123	+58 11 53.70	84.2	- 9.464+.154	+ .04	+ .018 0	.10	.67	.20	
4124	+44 5 8.21	56.9	- 9.788+.255	+ .04	-.312+ 2	.09	.32	.19	
4125	+23 45 11.55	62.7	- 9.478+.332	+ .06	-.018 0	.11	.46	.24	
4126	-57 39 26.92	84.6	- 9.501+.638	+ .32	-.056 0	.15	.73	.24	9 Herculis 49 Serpentis * 44 G Normæ 46 G Normæ γ <sup>1</sup>
4127	-21 8 40.62	77.4	- 9.412+.456	+ .13	-.015- 1	.10	.46	.18	
4128	-47 7 1.79	78.6	- 9.471+.562	+ .22	-.059 0	.14	.56	.22	
4129	+36 40 59.00	68.0	- 9.440+.286	+ .04	-.040 0	.11	.60	.28	
4130	+ 5 16 35.69	75.4	- 9.399+.386	+ .08	-.011 0	.11	.34	.16	
4131	-11 34 57.68	69.0	- 9.400+.431	+ .11	-.013 0	.12	.44	.22	12 Herculis 18 Scorpii See Appendix 16 Herculis
4132	+13 47 38.80	67.6	- 9.789+.366	+ .07	-.427+ 2	.08	.33	.16	
4133	-53 33 36.49	85.8	- 9.356+.607	+ .27	-.014 0	.16	.75	.24	
4134	- 3 26 13.41	70.2	- 9.479+.409	+ .09	-.153 0	.02	.14	.06	
4135	-49 49 4.76	78.2	- 9.297+.582	+ .24	-.004 0	.13	.56	.22	
4136	+ 8 6 37.46	80.5	- 9.285+.379	+ .08	-.018 0	.12	.36	.16	15 Herculis 17 Herculis 53 G Scorpii d Lowell. 6 <sup>m</sup> 1-7 <sup>m</sup> 1 0" 4 162° 49 G Normæ γ <sup>2</sup> *
4137	- 8 6 17.73	63.9	- 9.758+.427	+ .10	-.516+ 2	.08	.29	.16	
4138	+34 6 41.48	74.7	- 9.277+.292	+ .05	-.093- 3				
4139	+19 3 37.23	65.8	- 9.265+.348	+ .06	-.090 0	.11	.46	.23	
4140	-19 51 20.38	74.6	- 9.177+.457	+ .12	-.009 0	.12	.53	.22	
4141	+11 40 23.19	79.6	- 9.127+.370	+ .07	+ .030 0	.11	.37	.16	55 G Scorpii
4142	+23 22 15.92	76.8	- 9.124+.336	+ .06	-.024 0	.09	.35	.15	
4143	-28 21 55.57	82.5	- 9.203+.486	+ .14	-.109 0	.11	.49	.17	
4144	-42 25 44.82	83.5	- 9.094+.544	+ .19	-.019 0	.12	.63	.21	
4145	-49 54 36.60	70.4	- 9.126+.583	+ .23	-.053- 2	.09	.40	.16	
4146	+29 23 50.76	63.5	- 9.069+.316	+ .04	-.026 0	.08	.31	.17	
4147	- 4 26 56.06	70.9	- 8.989+.417	+ .09	+ .032+ 1	.04	.20	.08	
4148	-30 39 33.60	70.4	- 8.990+.497	+ .15	+ .018 0	.12	.53	.22	
4149	-30 39 51.36	75.0	- 9.002+.498	+ .15	+ .004+ 1	.10	.46	.19	
4150	-19 58 27.04	70.3	- 9.026+.461	+ .12	-.024 0	.12	.53	.22	

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>"</sup>	"	"	"
4151	Br 2096	5.6	16 13 40.218	78.2	-1.7663+.1253	-.060	+.0015- 1	.04	.26	.09
4152	Groomb 2329	7.4	13 59.350	70.6	+0.3039+.0330	-.018	-.0013 0	.15	.51	.25
4153	L 6783	7.0	14 5.583	90.2	+4.3976+.0341	-.025	-.0009 0	.13	.81	.21
4154	Br 2080	7.0	14 14.983	79.1	+2.4848+.0033	.000	-.0002 0	.11	.38	.16
4155	Br 2076	4.8	14 37.037	78.1	+3.6028+.0148	-.008	-.0010 0	.09	.42	.16
4156	L 6790	5.6	14 59.548	84.4	+4.4664+.0358	-.027	-.0011 0	.18	1.08	.33
4157	Br 2099	6.7	15 2.733	71.0	-1.5591+.1111	-.052	-.0101- 1	.10	.46	.21
4158	$\sigma$ Scorpii	3.0	15 6.542	74.8	+3.6395+.0154	-.009	-.0009 0	.05	.24	.10
4159	Groomb 2332	5.8	15 35.100	68.6	+0.9949+.0158	-.008	+.0011- 1	.11	.50	.23
4160	Groomb 2337	6.2	16 11.743	77.2	-1.0250+.0827	-.041	-.0040- 1	.10	.42	.17
4161	Groomb 2328	5.7	16 29.605	58.8	+2.0556+.0037	.000	-.0096 0	.16	.75	.42
4162	$\tau$ Herculis	3.8	16 44.067	78.3	+1.8011+.0050	-.001	-.0012 0	.03	.20	.07
4163	$\sigma$ Serpentis	4.9	17 0.427	63.4	+3.0347+.0066	-.002	-.0111 0	.10	.36	.20
4164	L 6810	5.5	17 14.800	93.1	+4.0534+.0237	-.017	+.0072 0	.11	.78	.17
4165	$\gamma$ Herculis	3.7	17 30.503	73.0	+2.6449+.0038	.000	-.0034 0	.03	.20	.08
4166	$\xi$ Trianguli Aust	5.1	17 42.502	88.9	+6.3990+.1158	-.118	+.0397 0	.14	.78	.22
4167	L 6816	5.5	17 51.544	88.3	+3.9914+.0223	-.015	-.0007 0	.15	.93	.25
4168	$\gamma$ Apodis	3.8	18 6.237	74.7	+9.0554+.3205	-.407	-.0400+ 3	.08	.44	.17
4169	$\xi$ Coronæ Bor	4.9	18 12.040	69.2	+2.3363+.0030	.000	-.0074 0	.09	.50	.22
4170	$\psi$ Ophiuchi	4.6	18 15.039	69.0	+3.5056+.0127	-.007	-.0013 0	.07	.32	.14
4171	L 6826 <sup>1</sup>	6.7	18 22.778	87.7	+3.7586+.0172	-.012	+.0041+ 1	.15	.88	.25
4172	L 6826 <sup>2</sup>	6.2	18 22.855	87.1	+3.7590+.0172	-.012	+.0045+ 1	.11	.63	.18
4173	$\nu^1$ Coronæ Bor	5.4	18 35.542	65.3	+2.2570+.0033	.000	+.0004 0	.12	.60	.29
4174	$\iota$ Trianguli Aust	5.4	18 39.804	79.4	+5.5393+.0735	-.070	+.0088 0	.15	.70	.26
4175	$\nu^2$ Coronæ Bor	5.5	18 43.171	64.1	+2.2597+.0031	.000	+.0003 0	.12	.64	.32
4176	Br 2089	6.5	19 6.121	77.2	+2.3012+.0032	.000	+.0010 0	.09	.42	.17
4177	Br 2085	6.0	19 18.486	64.7	+2.9193+.0055	-.002	-.0007 0	.14	.51	.27
4178	$\rho$ Ophiuchi <i>m</i>	4.7	19 35.241	78.4	+3.5907+.0139	-.008	-.0008 0	.07	.28	.12
4179	L 6812	5.9	19 48.950	89.6	+5.0356+.0530	-.048	-.0027+ 1	.20	.92	.27
4180	$\epsilon$ Normæ	4.8	19 50.951	63.8	+4.3852+.0317	-.026	-.0006 0	.24	1.48	.73
4181	$\eta$ Ursæ Min	5.2	20 25.384	77.0	-1.8030+.1133	-.045	-.0182- 22	.04	.22	.09
4182	$\omega$ Herculis	4.6	20 48.022	82.2	+2.7669+.0045	.000	+.0030 0	.06	.46	.14
4183	$\chi$ Ophiuchi	4.8	21 13.629	69.2	+3.4720+.0118	-.007	-.0003 0	.08	.36	.17
4184	Br 2093	5.7	21 50.391	81.8	+2.1357+.0035	.000	+.0003 0	.08	.42	.14
4185	L 6824	5.4	21 56.014	86.6	+5.3024+.0616	-.061	-.0013 0	.14	.80	.23
4186	Groomb 2347	5.6	22 2.182	62.6	-0.1586+.0445	-.022	-.0054+ 1	.14	.69	.35
4187	Groomb 2343	5.8	22 14.064	82.5	+1.3084+.0101	-.004	+.0019 0	.05	.32	.10
4188	Cape 3035	5.5	22 20.056	88.6	+3.2321+.0086	-.004	+.0024+ 1	.12	.64	.18
4189	$\nu$ Ophiuchi	4.7	22 23.577	72.8	+3.2409+.0086	-.004	-.0057 0	.11	.50	.21
4190	L 6841	5.6	22 27.458	87.9	+4.3323+.0295	-.025	-.0015 0	.15	.80	.23
4191	Groomb 2345 <i>m</i>	5.8	22 27.581	66.4	+0.7854+.0188	-.010	-.0050 0	.12	.54	.26
4192	$\eta$ Draconis	2.7	22 38.143	68.0	+0.8046+.0183	-.010	-.0025- 1	.03	.18	.08
4193	$\alpha$ Scorpii	0.8	23 16.507	69.2	+3.6720+.0149	-.010	-.0005 0	.03	.15	.07
4194	L 6809	5.6	23 16.824	89.5	+6.5590+.1203	-.142	-.0089+ 1	.20	1.04	.29
4195	Pulk <sub>ss</sub> 2356	5.7	23 28.243	89.8	+3.0532+.0066	-.002	-.0002 0	.11	.58	.16
4196	L 6545	6.3	23 34.611	76.3	+21.343+.2.353		+.007+ 6	.05	.42	.15
4197	Pulk <sub>ss</sub> 2358	5.9	24 7.720	92.6	+3.3869+.0103	-.006	+.0016 0	.13	.70	.18
4198	Br 2092	4.9	24 7.858	80.6	+3.6387+.0142	-.009	-.0004 0	.09	.38	.14
4199	L 6854	5.6	24 44.754	91.8	+4.1575+.0244	-.020	-.0004 0	.18	1.95	.40
4200	L 6859	4.4	16 24 50.783	82.8	+3.9117+.0192	-.015	-.0007 0	.09	.50	.16

4176 W. H. 9<sup>M</sup> 34" 18".4191  $\Sigma$  2054. 6<sup>M</sup>1-7<sup>M</sup>3 1" 1 0", slow.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10	Remarks.
	° ' "		" " "	"	" " "	" " "	
4151	+76 7 45.75	75.6	- 8.964-.226	+ .30	+ .007 0	.05 .22 .09	19 Ursæ Min
4152	+66 37 29.28	60.9	- 8.954+.043	+ .08	- .008 0	.12 .43 .24	
4153	-47 56 52.00	87.4	- 8.972+.578	+ .22	- .034 0	.11 .61 .18	51 G Normæ
4154	+26 8 23.81	76.2	- 8.934+.328	+ .05	- .009 0	.11 .35 .16	19 Herculis
4155	-23 55 42.47	71.7	- 8.937+.474	+ .13	- .040 0	.09 .33 .15	19 Scorpii (o)
4156	-49 20 0.83	79.8	- 8.898+.588	+ .23	- .031 0	.14 .73 .26	52 G Normæ
4157	+75 27 30.46	69.8	- 8.838-.202	+ .27	+ .025- 1	.10 .35 .17	20 Ursæ Min
4158	-25 21 10.49	73.0	- 8.890+.480	+ .12	- .032 0	.05 .23 .10	W. H. 8 <sup>m</sup> 21" 272°
4159	+59 59 50.75	60.1	- 8.801+.134	+ .04	+ .020 0	.10 .44 .24	
4160	+73 38 21.11	74.9	- 8.755-.131	+ .19	+ .018 0	.09 .34 .15	
4161	+39 56 51.40	61.4	- 8.766+.272	+ .04	- .017- 1	.12 .47 .26	
4162	+46 33 4.92	73.2	- 8.700+.240	+ .03	+ .030 0	.03 .15 .06	
4163	+1 15 49.84	64.8	- 8.666+.401	+ .08	+ .043- 1	.10 .34 .18	
4164	-38 57 32.95	89.2	- 8.709+.537	+ .17	- .019+ 1	.11 .61 .17	62 G Scorpii
4165	+19 23 15.98	72.4	- 8.630+.351	+ .06	+ .039 0	.04 .20 .08	
4166	-69 51 31.68	89.0	- 8.553+.851	+ .55	+ .100+ 5	.12 .77 .20	
4167	-37 19 56.97	84.6	- 8.664+.529	+ .16	- .022 0	.13 .69 .22	66 G Scorpii
4168	-78 40 20.97	76.6	- 8.699+1.190	+ 1.31	- .077- 5	.07 .42 .16	
4169	+31 7 25.50	65.6	- 8.522+.310	+ .04	+ .092- 1	.09 .37 .19	
4170	-19 48 12.65	64.9	- 8.674+.465	+ .11	- .063 0	.07 .31 .16	
4171	-29 28 7.21	75.0	- 8.717+.499	+ .14	- .117 0	.17 .84 .34	} h 4850. 6"5 350° 67 G Scorpii
4172	-29 28 13.48	80.6	- 8.685+.499	+ .14	- .085+ 1	.12 .52 .19	
4173	+34 2 3.39	61.1	- 8.633+.301	+ .04	- .049 0	.11 .57 .30	
4174	-63 49 50.58	79.7	- 8.570+.735	+ .39	+ .008+ 1	.13 .64 .23	Dunlop. 9 <sup>m</sup> 22" 20°
4175	+33 56 9.80	62.3	- 8.519+.301	+ .04	+ .055 0	.10 .60 .30	
4176	+32 33 58.17	70.7	- 8.561+.307	+ .04	- .018 0	.08 .30 .14	23 Herculis *
4177	+7 10 44.95	63.7	- 8.519+.389	+ .07	+ .008 0	.12 .46 .24	21 Herculis o
4178	-23 12 59.21	76.8	- 8.526+.478	+ .12	- .021 0	.08 .27 .12	See Appendix
4179	-58 22 20.89	85.3	- 8.540+.668	+ .29	- .053 0	.16 .73 .24	55 G Normæ
4180	-47 19 34.91	67.0	- 8.492+.583	+ .20	- .008 0	.17 1.05 .48	h 4853. 7 <sup>m</sup> 23" 335°
4181	+75 59 8.97	75.4	- 8.187-.237	+ .29	+ .252- 2	.05 .23 .09	
4182	+14 15 47.80	78.8	- 8.474+.370	+ .06	- .065 0	.06 .33 .12	$\beta$ 625. 12 <sup>m</sup> 2" 183°
4183	-18 13 46.14	67.9	- 8.406+.463	+ .11	- .031 0	.09 .34 .17	
4184	+37 37 17.50	75.3	- 8.352+.287	+ .04	- .026 0	.08 .33 .14	25 Herculis
4185	-61 24 43.07	85.1	- 8.322+.707	+ .33	- .003 0	.12 .65 .20	33 G Trianguli Aust
4186	+69 20 26.11	60.7	- 8.324-.018	+ .10	- .014- 1	.14 .58 .32	
4187	+55 25 56.64	78.0	- 8.279+.177	+ .03	+ .016 0	.06 .31 .12	
4188	-7 22 10.50	84.3	- 8.459+.433	+ .09	- .172 0	.10 .55 .17	
4189	-8 8 52.76	71.4	- 8.274+.433	+ .10	+ .009- 1	.09 .38 .17	
4190	-46 1 16.62	87.7	- 8.287+.578	+ .20	- .010 0	.12 .71 .20	59 G Normæ
4191	+61 55 26.36	63.1	- 8.245+.107	+ .05	+ .032- 1	.11 .44 .23	*
4192	+61 44 25.81	66.5	- 8.204+.110	+ .05	+ .059 0	.03 .14 .07	O $\Sigma$ 312. 8 <sup>m</sup> 5"4 143°
4193	-26 12 36.80	71.0	- 8.245+.492	+ .12	- .033 0	.04 .18 .08	Antares *
4194	-70 46 19.10	89.6	- 8.248+.875	+ .57	- .037- 1	.16 .97 .25	45 G Apodis
4195	+0 53 19.44	88.2	- 8.272+.410	+ .08	- .076 0	.11 .47 .15	
4196	-86 10 42.86	79.9	- 8.189+2.845		- .001+ 1	.05 .38 .12	26 G Octantis
4197	-14 19 53.37	88.6	- 8.135+.455	+ .10	+ .008 0	.13 .64 .19	
4198	-24 53 42.46	81.2	- 8.171+.488	+ .12	- .028 0	.10 .43 .16	22 Scorpii
4199	-41 35 59.75	90.5	- 8.068+.558	+ .17	+ .026 0	.14 1.50 .32	71 G Scorpii
4200	-34 29 11.62	77.1	- 8.110+.525	+ .15	- .024 0	.09 .43 .17	72 G Scorpii N etc.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
			<sup>m</sup>	<sup>h</sup>	<sup>m</sup>					$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
4201	Br 2102	Var.	16	25	21.421	75.3	+1.9682+.0040	-.001	+0.0020 0	.08	.33	14.
4202	$\phi$ Ophiuchi	4.4	25	24.845	71.2	71.2	+3.4287+.0109	-.006	-.0038 0	.06	.28	.13
4203	$\lambda$ Ophiuchi <i>m</i>	4.0	25	52.136	76.3	76.3	+3.0220+.0063	-.002	-.0032 0			
4204	$\beta$ Herculis	2.6	25	55.239	78.8	78.8	+2.5770+.0036	.000	-.0075 0	.03	.21	.07
4205	$\theta$ Trianguli Aust	5.5	26	6.944	84.2	84.2	+5.7415+.0766	-.087	+0.0059+ 2	.18	.78	.27
4206	$\omega$ Ophiuchi	4.5	26	12.462	67.8	67.8	+3.5507+.0124	-.008	+0.0015 0	.08	.34	.17
4207	Pulk <sub>ss</sub> 2363	5.5	26	13.078	86.8	86.8	+2.6043+.0038	.000	-.0048+ 1	.13	.54	.18
4208	$\mu$ Normæ	5.2	26	58.576	90.0	90.0	+4.5253+.0261	-.023	+0.0011 0	.14	.90	.23
4209	Br 2107	6.5	27	21.228	77.2	77.2	+1.6443+.0064	-.002	-.0056+ 1	.09	.44	.17
4210	Br 2101	5.7	27	40.380	62.7	62.7	+2.9499+.0055	-.002	+0.0010 0	.06	.54	.26
4211	Br 2106	7.3	27	45.436	84.0	84.0	+2.2488+.0033	.000	-.0026 0	.12	.42	.16
4212	Br 2105	5.1	27	55.481	74.8	74.8	+2.8050+.0048	-.001	-.0126+ 1	.10	.39	.17
4213	Br 2118	5.1	28	10.571	75.0	75.0	-.0.1354+.0406	-.019	-.0045- 1	.03	.24	.09
4214	Dpt 1838	5.7	28	46.591	82.6	82.6	+1.8046+.0049	-.001	-.0004 0	.11	.46	.16
4215	$\beta$ Apodis	4.2	28	47.393	79.4	79.4	+8.4547+.2440	-.357	-.0880+27	.08	.60	.20
4216	L 6885	5.7	29	20.464	85.5	85.5	+4.2070+.0245	-.023	-.0014 0	.15	.87	.26
4217	Br 2110	7.1	29	35.289	73.9	73.9	+2.3365+.0033	.000	-.0030 0	.08	.50	.20
4218	$\tau$ Scorpii	2.8	29	39.370	74.3	74.3	+3.7279+.0150	-.012	-.0008 0	.05	.24	.10
4219	L 6890	4.3	29	47.567	81.4	81.4	+3.9403+.0187	-.015	+0.0021 0	.10	.52	.18
4220	$\sigma$ Herculis	4.2	30	52.728	78.2	78.2	+1.9324+.0041	-.001	-.0010 0	.04	.20	.07
4221	Pi 140	6.0	31	0.780	76.0	76.0	+0.8397+.0167	-.008	+0.0019 0	.09	.40	.16
4222	Br 2108	6.1	31	6.216	73.7	73.7	+3.1476+.0072	-.003	+0.0296+ 2	.06	.26	.11
4223	Pi 182	5.8	31	17.491	69.4	69.4	-3.4379+.1961	+0.003	-.0365-13	.08	.50	.21
4224	L 6899	6.2	31	21.684	87.2	87.2	+4.2317+.0246	-.024	-.0028 0	.18	.75	.25
4225	$\zeta$ Ophiuchi	2.5	31	39.094	73.6	73.6	+3.2996+.0086	-.006	+0.0008 0	.03	.21	.08
4226	$\gamma$ Herculis	Var.	32	0.091	73.8	73.8	+2.9116+.0051	-.002	-.0018 0	.11	.33	.16
4227	L 6881	6.5	33	14.512	84.9	84.9	+6.0338+.0827	-.114	+0.0019+ 2	.14	.72	.23
4228	Groomb 2362	6.1	33	16.139	65.4	65.4	+1.7476+.0052	-.001	-.0015 0	.13	.62	.30
4229	Br 2122	5.8	33	49.472	71.0	71.0	+1.4151+.0081	-.003	-.0016 0	.07	.27	.12
4230	L 6912 <sup>1</sup>	6.8	33	49.838	95.0	95.0	+4.4779+.0296	-.032	-.0028 0	.21	1.46	.30
4231	L 6912 <sup>2</sup>	6.0	33	50.854	84.5	84.5	+4.4805+.0296	-.032	-.0003 0	.18	.78	.27
4232	Br 2124	5.4	33	51.943	69.0	69.0	+1.4141+.0081	-.003	-.0010 0	.07	.26	.13
4233	L 6913	6.0	34	6.024	90.8	90.8	+4.5268+.0306	-.034	+0.0006 0	.21	1.95	.43
4234	Pi 195	6.5	34	56.343	80.4	80.4	-2.6430+.1360	-.003	-.0291-32	.05	.39	.12
4235	Pi 142	7.0	35	30.435	71.8	71.8	+3.4765+.0105	-.008	+0.0024 0	.15	.64	.29
4236	L 6940	6.3	35	32.432	83.3	83.3	+3.6301+.0126	-.011	-.0045 0	.13	.82	.25
4237	Br 2116	7.1	35	37.194	81.8	81.8	+2.9754+.0055	-.002	-.0010 0	.10	.39	.15
4238	Br 2117	6.0	35	40.764	75.1	75.1	+2.9757+.0055	-.002	-.0004 0	.09	.33	.15
4239	Br 2114	5.2	35	47.300	72.2	72.2	+3.4651+.0103	-.008	-.0017 0	.06	.27	.12
4240	Groomb 2369	5.5	35	59.071	59.5	59.5	+1.2061+.0101	-.005	-.0017- 2	.12	.63	.34
4241	Br 2115	5.7	36	0.936	75.8	75.8	+3.5217+.0109	-.009	+0.0018 0	.11	.62	.24
4242	Br 2128	5.1	36	1.974	72.4	72.4	+1.6271+.0060	-.002	-.0036 0	.08	.38	.16
4243	L 6906	5.3	36	35.948	85.8	85.8	+5.9999+.0775	-.115	-.0037 0	.15	.81	.25
4244	Br 2120	6.0	36	38.569	80.5	80.5	+3.0349+.0059	-.003	-.0075 0	.09	.46	.16
4245	L 6950	6.9	37	12.854	83.4	83.4	+3.8504+.0158	-.015	-.0006 0	.12	.80	.25
4246	$\zeta$ Herculis <i>c.g.</i>	2.8	37	30.992	74.7	74.7	+2.2608+.0027	.000	-.0365- 3			
4247	Br 2125	6.1	37	33.302	63.6	63.6	+2.4318+.0034	.000	-.0002 0	.15	.52	.28
4248	L 6949	5.8	37	46.921	87.8	87.8	+4.1442+.0210	-.023	-.0026 0	.13	.75	.21
4249	L 6928	6.0	37	49.036	88.7	88.7	+5.1000+.0448	-.057	.0000+ 1	.20	.90	.27
4250	$\alpha$ Trianguli Aust	1.7	16	38 4.377	68.4	68.4	+6.3107+.0889	-.141	+0.0032+ 2	.05	.30	.14

4201 4<sup>m</sup>7 to 6<sup>m</sup>0.4211  $\beta$  816. 11<sup>m</sup> 5" 223°.4230-1 h 4876. 10<sup>m</sup> 2" 12°; 6<sup>m</sup>8 10" 266°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10	Remarks.
	" ' "		" "	"	"	" "	
4201	+42 6 5.15	70.2	-8.063+ .267	+ .03	-.018 0	.07 .29 .14	30 Hercules g *
4202	-16 23 41.19	69.4	-8.079+ .461	+ .10	-.037 0	.06 .28 .13	
4203	+ 2 12 9.41	75.5	-8.088+ .407	+ .07	-.084 0		See Appendix
4204	+21 42 26.30	77.5	-8.024+ .347	+ .05	-.024- 1	.03 .20 .07	
4205	-65 17 1.03	83.0	-8.042+ .772	+ .39	-.058+ 1	.14 .67 .23	
4206	-21 15 9.05	64.8	-7.951+ .478	+ .10	+.026 0	.09 .31 .16	
4207	+20 41 51.72	82.8	-8.042+ .351	+ .05	-.067- 1	.12 .47 .18	
4208	-43 50 0.02	82.4	-7.924+ .573	+ .17	-.009 0	.11 .51 .18	
4209	+49 10 42.68	75.7	-7.949+ .223	+ .03	-.064- 1	.09 .37 .16	34 Hercules
4210	+ 5 44 1.54	57.9	-7.876+ .399	+ .07	-.017 0	.14 .50 .30	28 Hercules n
4211	+33 43 40.05	80.8	-7.875+ .305	+ .04	-.022 0	.12 .38 .16	31 Hercules *
4212	+11 42 9.36	73.5	-7.924+ .378	+ .06	-.085- 2	.07 .33 .14	29 Hercules h
4213	+68 59 4.20	74.2	-7.785- .016	+ .09	+.034- 1	.04 .22 .09	15 Draconis A
4214	+45 48 34.16	72.0	-7.742+ .246	+ .03	+.028 0	.10 .34 .16	$\Sigma$ 2063. 8 <sup>m</sup> 3 16" 195°
4215	-77 18 28.83	78.8	-8.115+ 1.128	+ 1.01	-.346- 12	.07 .52 .18	
4216	-42 39 7.92	78.7	-7.745+ .569	+ .17	-.020 0	.12 .58 .22	61 G Normæ
4217	+30 42 31.00	73.7	-7.723+ .318	+ .04	-.018 0	.08 .45 .18	32 Hercules
4218	-28 0 31.15	75.5	-7.736+ .505	+ .12	-.037 0	.06 .27 .11	
4219	-35 2 58.88	75.2	-7.705+ .534	+ .14	-.017 0	.11 .56 .22	76 G Scorpii H
4220	+42 38 35.25	72.9	-7.565+ .264	+ .03	+.035 0	.04 .21 .09	
4221	+61 1 57.92	74.3	-7.606+ .117	+ .04	-.016 0	.08 .35 .15	
4222	- 2 6 40.69	70.6	-7.900+ .432	+ .07	-.318+ 4	.06 .26 .12	12 Ophiuchi
4223	+79 10 38.25	58.6	-7.453- .466	+ .53	+.114- 5	.10 .48 .27	
4224	-43 11 45.28	79.8	-7.598+ .574	+ .16	-.037 0	.14 .54 .22	62 G Normæ
4225	-10 21 53.06	76.2	-7.521+ .449	+ .09	+.017 0	.04 .22 .08	
4226	+ 7 18 36.68	73.6	-7.514+ .397	+ .06	-.004 0	.11 .33 .16	6 <sup>m</sup> 9 to 8 <sup>m</sup> 0
4227	-67 14 14.20	84.0	-7.458+ .821	+ .41	-.049 0	.11 .61 .19	38 G Trianguli Aust
4228	+46 48 56.58	56.8	-7.395+ .240	+ .03	+.012 0	.13 .57 .33	
4229	+53 6 2.94	57.0	-7.341+ .195	+ .03	+.020 0	.07 .26 .16	16 Draconis
4230	-48 34 2.10	86.8	-7.385+ .610	+ .18	-.024 0	.16 .75 .24	4 G Aræ *
4231	-48 34 1.32	79.1	-7.375+ .611	+ .19	-.015 0	.14 .57 .22	
4232	+53 7 30.92	54.4	-7.338+ .195	+ .03	+.020 0	.07 .24 .15	17 Draconis *
4233	-49 27 22.63	81.6	-7.340+ .617	+ .19	-.001 0	.15 .81 .28	5 G Aræ
4234	+77 38 44.11	78.3	-7.000- .360	+ .37	+.271- 4	.06 .35 .13	Groomb 2373
4235	-17 51 51.98	65.6	-7.267+ .476	+ .09	-.043 0	.12 .44 .23	
4236	-24 16 26.34	81.5	-7.217+ .496	+ .10	+.005- 1	.13 .85 .28	36 G Ophiuchi
4237	+ 4 24 7.61	77.4	-7.233+ .408	+ .06	-.018 0	.10 .35 .15	36 Hercules m
4238	+ 4 24 52.88	68.5	-7.225+ .408	+ .06	-.015 0	.08 .27 .14	37 Hercules m <sup>2</sup>
4239	-17 32 55.47	68.7	-7.208+ .474	+ .09	-.007 0	.06 .24 .11	24 Scorpii
4240	+56 12 39.98	56.4	-7.103+ .167	+ .03	+.082 0	.12 .53 .31	
4241	-19 43 58.33	76.2	-7.154+ .483	+ .09	+.029 0	.10 .49 .19	
4242	+49 7 25.72	66.7	-7.154+ .224	+ .03	+.027 0	.07 .27 .14	42 Hercules *
4243	-66 55 21.09	83.2	-7.147+ .820	+ .39	-.012 0	.12 .60 .20	41 G Trianguli Aust
4244	+ 1 22 19.25	70.4	-7.082+ .416	+ .06	+.050- 1	.10 .49 .22	14 Ophiuchi
4245	-31 54 57.47	77.6	-7.112+ .528	+ .12	-.027 0	.13 .81 .29	86 G Scorpii
4246	+31 47 1.23	74.5	-6.675+ .306	+ .03	+.385- 5		See Appendix
4247	+27 6 33.76	59.0	-7.106+ .335	+ .04	-.049 0	.14 .51 .30	39 Hercules
4248	-40 39 5.24	80.1	-7.065+ .568	+ .14	-.027 0	.13 .55 .21	87 G Scorpii
4249	-58 19 3.59	86.4	-7.066+ .699	+ .25	-.030 0	.16 .77 .24	8 G Aræ
4250	-68 50 38.11	71.0	-7.042+ .865	+ .44	-.027 0	.05 .31 .13	

4232  $\Sigma$  2078. 5<sup>m</sup> 8 4" 111°.4242  $\Sigma$  2082. 11<sup>m</sup> 24" 92°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
4251	Pi 159	6.2	16	38	44.825	79.6	+3.7448+.0138	-.013	-.0031 0	.11	.52	.19
4252	L 6953	7.0		38	46.531	95.2	+4.3863+.0258	-.029	+0.0002 0	.16	1.20	.24
4253	L 6936	5.9		38	48.471	91.6	+5.0875+.0440	-.058	-.0031+ 1	.20	1.10	.28
4254	Br 2123	7.2		39	7.717	77.5	+3.6026+.0118	-.010	-.0020 0	.11	.52	.20
4255	$\eta$ Herculis	3.5		39	28.044	74.6	+2.0551+.0039	-.001	+0.0029+ 1	.03	.14	.06
4256	L 6970	5.7		39	57.493	93.2	+4.0934+.0195	-.021	-.0029 0	.20	1.34	.30
4257	Br 2130	7.0		40	7.709	73.1	+2.9195+.0054	-.002	-.0146+ 2	.09	.40	.17
4258	Pi 177	6.2		40	10.300	76.7	+2.2119+.0033	.000	-.0060 0	.13	.70	.27
4259	Br 2141	5.0		40	13.499	67.0	+0.4057+.0232	-.011	+0.0006+ 1	.09	.38	.18
4260	Br 2129	6.2		40	24.781	75.3	+3.0461+.0058	-.003	+0.0002 0	.11	.36	.17
4261	Br 2126	7.2		40	43.922	76.6	+3.6678+.0124	-.011	-.0001 0	.08	.42	.16
4262	Pulk <sub>ss</sub> 2392	6.0		40	50.811	87.7	+2.7159+.0040	-.001	+0.0025 0	.12	.57	.18
4263	Groomb 2374	6.4		40	55.669	75.6	+1.2224+.0095	-.005	+0.0058- 2	.10	.45	.19
4264	Br 2131	5.5		41	1.801	68.5	+2.8783+.0047	-.002	-.0001 0	.10	.39	.19
4265	$\eta$ Arae	3.7		41	8.887	79.7	+5.1593+.0447	-.063	+0.0044+ 1	.10	.51	.19
4266	Br 2135	6.3		42	7.201	64.6	+3.0209+.0056	-.003	-.0021 0	.14	.54	.28
4267	Pi 174	7.6		42	9.003	84.6	+3.6423+.0119	-.011	-.0003 0	.12	.69	.22
4268	L 6954	6.5		42	10.753	84.1	+5.7987+.0647	-.104	-.0009+ 1	.18	.78	.27
4269	Br 2137	5.3		42	51.000	74.4	+2.9509+.0052	-.002	-.0016 0	.10	.32	.15
4270	Groomb 2377	5.0		43	23.953	81.1	+1.1345+.0104	-.005	+0.0033- 1	.05	.30	.10
4271	Pi 185	7.1		43	39.122	81.5	+3.6461+.0118	-.011	-.0009 0	.09	.51	.17
4272	$\epsilon$ Scorpii	2.1		43	41.129	75.2	+3.8783+.0161	-.017	-.0496+ 1	.07	.27	.12
4273	Br 2138	4.8		44	18.043	75.9	+3.3149+.0080	-.006	+0.0058+ 1	.07	.28	.12
4274	L 7000	5.5		44	35.301	86.4	+4.1749+.0198	-.024	+0.0009 0	.15	.70	.22
4275	Pi 219	7.4		44	48.373	79.8	+1.2300+.0094	-.005	+0.0045 0	.10	.50	.18
4276	Dpt 1874	6.0		44	57.611	83.0	+2.7683+.0041	-.001	-.0017 0	.12	.45	.17
4277	$\mu^1$ Scorpii	3.1		45	5.749	78.2	+4.0562+.0177	-.021	-.0006 0	.09	.34	.14
4278	Pi 196	7.2		45	10.600	75.7	+3.4443+.0092	-.008	.0000 0	.12	.52	.22
4279	Br 2142	6.9		45	21.852	79.6	+2.3320+.0031	.000	-.0053 0	.11	.39	.16
4280	Br 2139	5.7		45	28.033	72.7	+2.9109+.0048	-.002	+0.0035 0	.10	.32	.16
4281	$\mu^2$ Scorpii	3.7		45	33.669	84.6	+4.0549+.0176	-.021	-.0016 0	.10	.50	.16
4282	L 6983	6.3		46	4.730	85.9	+5.5724+.0539	-.090	+0.0012+ 1	.20	.81	.28
4283	L 7022	7.3		46	7.830	77.4	+3.6740+.0118	-.012	-.0011 0	.14	.70	.27
4284	Br 2149	4.9		46	18.534	70.4	+1.7542+.0053	-.001	+0.0021+ 1	.09	.28	.14
4285	Br 2140	5.7		46	20.652	57.9	+3.0409+.0056	-.003	-.0008 0	.11	.48	.27
4286	Br 2145	6.1		46	44.757	74.8	+2.3398+.0032	.000	-.0007 0	.09	.38	.16
4287	L 7016	5.1		46	56.390	85.0	+4.2234+.0201	-.025	+0.0005 0	.11	.72	.21
4288	L 7017	5.4		47	0.774	86.4	+4.2005+.0197	-.025	-.0003 0	.16	.70	.23
4289	L 7019	6.1		47	23.075	87.5	+4.2287+.0201	-.026	+0.0003 0	.16	.75	.24
4290	Pi 214	6.1		47	30.912	74.5	+3.5372+.0100	-.009	-.0037 0	.13	.56	.23
4291	Br 2144	6.7		47	31.636	85.3	+2.7292+.0039	-.001	+0.0006 0	.04	.33	.09
4292	$\zeta$ Scorpii	3.5		47	32.754	85.6	+4.2128+.0204	-.026	-.0109+ 2	.12	.63	.19
4293	Groomb 2391	6.3		47	32.905	76.5	-2.7292+.1207	+0.37	+0.0176-30	.07	.46	.17
4294	Br 2147	5.3		47	36.538	80.2	+2.4859+.0033	.000	+0.0012 0	.11	.39	.16
4295	L 7033	6.6		48	13.108	84.4	+3.8223+.0134	-.015	+0.0033 0	.13	.75	.23
4296	L 7024	6.8		48	25.942	92.9	+4.6140+.0274	-.039	-.0019 0	.15	.98	.22
4297	L 7038	7.6		48	45.365	88.8	+4.1145+.0178	-.023	-.0009 0	.15	.78	.22
4298	Br 2143	7.4		48	48.155	77.7	+3.6211+.0108	-.011	-.0005 0	.10	.44	.17
4299	L 6989	6.2		48	49.569	79.8	+6.4031+.0802	-.161	-.0034+ 1	.16	.75	.28
4300	Br 2151	5.6	16	49	10.506	67.5	+2.2734+.0033	.000	-.0075 0	.07	.28	.14

4266  $\Sigma$  2096.  $9^m 13^s 23'' 91^o$ .4284  $\beta$  627.  $10^m 17^s 8 31^o$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
4251	-28 19 24.09	78.6	- 6.950+.514	+ .11	+ .009 0	.12	.51	.20	90 G Scorpii
4252	-46 20 46.45	92.0	- 6.998+.603	+ .17	- .041 0	.13	.83	.20	10 G Aræ
4253	-58 9 27.13	83.8	- 6.999+.698	+ .24	- .045 0	.15	.69	.24	9 G Aræ
4254	-22 59 51.85	77.2	- 6.952+.495	+ .10	- .024 0	.11	.47	.19	15 Ophiuchi
4255	+39 6 44.01	68.1	- 6.995+.285	+ .03	- .095 0	.04	.16	.08	
4256	-39 11 36.61	91.4	- 6.889+.563	+ .14	- .029 0	.16	1.11	.26	91 G Scorpii
4257	+ 6 16 47.06	69.4	- 7.123+.401	+ .06	- .277- 2	.08	.34	.16	41 Herculis
4258	+34 13 22.56	70.6	- 6.792+.305	+ .03	+ .050- 1	.12	.52	.24	
4259	+64 46 42.88	64.0	- 6.855+.058	+ .05	- .017 0	.06	.27	.14	18 Draconis <i>g</i>
4260	+ 1 12 12.56	73.4	- 6.822+.420	+ .06	.000 0	.11	.33	.16	16 Ophiuchi
4261	-25 20 47.20	77.7	- 6.815+.506	+ .10	- .019 0	.09	.40	.16	25 Scorpii
4262	+15 55 47.67	81.9	- 6.827+.376	+ .05	- .040 0	.11	.47	.17	
4263	+55 52 25.64	71.2	- 6.703+.171	+ .03	+ .077+ 1	.09	.36	.17	
4264	+ 8 45 53.38	64.2	- 6.756+.398	+ .05	+ .016 0	.09	.32	.17	43 Herculis <i>i</i>
4265	-58 51 46.08	77.8	- 6.807+.712	+ .25	- .045+ 1	.09	.43	.16	
4266	+ 2 14 40.52	58.5	- 6.701+.418	+ .06	- .019 0	.11	.40	.23	19 Ophiuchi *
4267	-24 20 52.03	81.2	- 6.694+.504	+ .10	- .015 0	.11	.56	.20	Magns. discordant
4268	-65 12 3.12	82.7	- 6.699+.800	+ .33	- .022 0	.13	.63	.22	44 G Trianguli Aust
4269	+ 5 25 33.30	74.2	- 6.667+.409	+ .06	- .045 0	.11	.34	.16	45 Herculis <i>l</i>
4270	+56 57 37.67	75.6	- 6.520+.160	+ .03	+ .056 0	.06	.36	.14	
4271	-24 27 54.16	80.7	- 6.578+.505	+ .10	- .023 0	.10	.51	.18	18 Ophiuchi
4272	-34 6 42.37	72.4	- 6.811+.530	+ .13	- .258- 7	.07	.31	.14	
4273	-10 36 22.61	70.5	- 6.604+.461	+ .08	- .102+ 1	.06	.29	.13	20 Ophiuchi
4274	-41 3 31.06	80.6	- 6.480+.579	+ .14	- .002 0	.12	.51	.19	97 G Scorpii
4275	+55 35 13.21	77.5	- 6.463+.173	+ .03	- .003+ 1	.10	.45	.18	
4276	+13 26 8.01	70.5	- 6.475+.385	+ .05	- .028 0	.10	.34	.17	Σ 2103. 10 <sup>m</sup> 5" 39°
4277	-37 52 32.75	74.2	- 6.466+.563	+ .13	- .030 0	.08	.33	.14	
4278	-16 22 29.02	73.6	- 6.455+.478	+ .07	- .026 0	.11	.44	.19	
4279	+30 8 10.11	76.8	- 6.339+.324	+ .04	+ .075- 1	.10	.36	.16	48 Herculis
4280	+ 7 25 12.93	66.7	- 6.413+.405	+ .05	- .008 0	.10	.33	.17	47 Herculis <i>k</i>
4281	-37 50 49.19	75.0	- 6.425+.563	+ .13	- .028 0	.09	.36	.16	
4282	-63 6 12.29	77.8	- 6.377+.774	+ .28	- .023 0	.13	.57	.23	17 G Aræ
4283	-25 25 51.86	75.4	- 6.374+.510	+ .09	- .024 0	.14	.77	.30	See. 13 <sup>m</sup> 2" 5 5°
4284	+46 9 25.83	64.2	- 6.408+.246	+ .03	- .073 0	.08	.26	.15	52 Herculis *
4285	+ 1 23 9.95	57.6	- 6.358+.423	+ .06	- .026 0	.09	.39	.22	21 Ophiuchi *
4286	+29 58 37.15	74.5	- 6.306+.326	+ .04	- .007 0	.07	.32	.13	50 Herculis
4287	-42 11 44.51	81.3	- 6.302+.588	+ .13	- .019 0	.09	.54	.18	103 G Scorpii ζ <sup>1</sup> *
4288	-41 38 24.22	83.1	- 6.289+.584	+ .14	- .012 0	.14	.61	.22	101 G Scorpii, Cluster
4289	-42 18 48.39	81.1	- 6.259+.588	+ .14	- .013 0	.13	.57	.21	105 G Scorpii, Cluster
4290	-20 14 54.22	76.3	- 6.273+.492	+ .08	- .038 0	.12	.51	.21	
4291	+15 8 30.60	80.5	- 6.241+.381	+ .05	- .007 0	.05	.28	.10	49 Herculis
4292	-42 11 24.02	82.6	- 6.470+.585	+ .14	- .237- 2	.10	.51	.17	104 G Sc. ζ <sup>2</sup> . Cluster
4293	+77 41 11.20	77.8	- 6.026-.373	+ .33	+ .206+ 2	.06	.37	.14	Küstner. 10 <sup>m</sup> 3" 190°
4294	+24 49 27.73	73.9	- 6.225+.347	+ .04	+ .002 0	.10	.34	.16	51 Herculis
4295	-30 25 22.95	83.0	- 6.174+.533	+ .10	+ .003 0	.12	.58	.20	107 G Scorpii
4296	-50 30 44.60	89.2	- 6.184+.642	+ .16	- .025 0	.13	.67	.19	21 G Aræ
4297	-39 20 33.21	81.8	- 6.150+.574	+ .13	- .018 0	.13	.54	.20	108 G Sc. (B. A. C. has <i>p</i> )
4298	-23 20 53.79	83.9	- 6.159+.505	+ .09	- .031 0	.11	.58	.19	22 Ophiuchi
4299	-69 6 36.48	78.7	- 6.151+.891	+ .39	- .025 0	.14	.59	.23	45 G Trianguli Aust
4300	+31 52 1.30	66.5	- 6.120+.317	+ .03	- .023- 1	.06	.27	.13	53 Herculis

4285 OΣ 315. 8<sup>m</sup> 0" 8 159°.4287 See. 5<sup>m</sup> 7-6<sup>m</sup> 2 0" 2 175°, Cluster.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		M	h m s		s s	s	s	"	"	"
4301	Br 2146	5.5	16 49 14.967	66.2	+3.2037+.0066	-.005	-.0023 0	.10	.44	.21
4302	ι Ophiuchi	4.3	49 16.561	70.8	+2.8365+.0044	-.002	-.0038 0	.07	.30	.14
4303	Pi 232	6.9	50 15.438	76.8	+3.4593+.0087	-.008	+0.0057 0	.08	.46	.17
4304	ζ Arae	3.0	50 20.572	78.4	+4.9483+.0342	-.055	-.0027+ 1	.09	.48	.18
4305	Groomb 2389	7.0	50 22.685	84.1	+1.8937+.0049	-.001	+0.0104+ 4	.09	.52	.16
4306	L 7045	5.8	50 34.857	86.7	+4.6184+.0267	-.040	-.0004+ 1	.20	.80	.27
4307	Pulk <sub>ss</sub> 2414	5.8	50 36.607	87.0	+2.5838+.0034	-.001	+0.0042 0	.11	.58	.17
4308	Pi 228	5.7	50 39.991	88.4	+3.9032+.0142	-.017	-.0008 0	.15	.84	.24
4309	Br 2148 <i>m</i>	5.7	50 46.097	84.2	+3.6132+.0104	-.011	-.0005 0	.07	.45	.14
4310	Br 2154	6.4	50 56.557	76.6	+2.4538+.0033	-.001	+0.0009 0	.10	.36	.16
4311	Br 2152	5.6	50 58.482	72.6	+2.6355+.0036	-.001	-.0075 0	.10	.38	.17
4312	Pi 236	6.7	51 11.389	75.8	+3.5207+.0094	-.010	-.0008 0	.10	.48	.20
4313	ε Arae	4.1	51 36.712	76.8	+4.7675+.0293	-.047	-.0004 0	.10	.48	.19
4314	Groomb 2390	7.2	52 40.183	62.3	+0.8150+.0137	-.006	+0.0057 0	.14	.62	.32
4315	κ Ophiuchi	3.2	52 56.074	74.4	+2.8376+.0043	-.002	-.0199 0	.03	.16	.06
4316	Br 2157	6.7	53 24.686	73.0	+2.4620+.0032	-.001	+0.0006 0	.11	.50	.21
4317	Groomb 2393	7.4	53 46.326	78.8	+0.5912+.0167	-.007	-.0454+ 4	.10	.57	.20
4318	Br 2153	6.1	53 50.278	75.1	+3.6678+.0107	-.012	-.0003 0	.10	.46	.19
4319	Br 2155	5.9	54 1.905	75.9	+3.6690+.0107	-.012	+0.0035 0	.10	.48	.19
4320	L 7073	5.5	55 9.276	80.8	+4.7797+.0286	-.048	-.0010+ 3	.16	.75	.27
4321	L 7089	5.3	55 24.576	85.1	+3.8734+.0130	-.017	-.0009 0	.10	.66	.20
4322	Br 2169	5.0	55 28.679	66.5	+0.3221+.0204	-.008	+0.0394- 4	.08	.40	.20
4323	Br 2159	5.1	55 47.160	82.0	+3.1602+.0060	-.005	-.0036+ 1	.07	.40	.13
4324	L 7072	6.0	55 53.649	84.2	+5.0921+.0346	-.063	-.0018 0	.18	.78	.27
4325	Br 2170 <i>m</i>	6.8	55 55.490	67.8	+0.2862+.0208	-.008	-.0072- 1	.10	.54	.25
4326	Br 2158	6.7	56 0.182	73.9	+3.5050+.0087	-.009	-.0031 0	.08	.44	.18
4327	ε Ursæ Min	4.5	56 12.208	66.5	-6.3039+.3151	+5.16	+0.0072- 1	.03	.15	.07
4328	ε Herculis	3.8	56 27.799	75.8	+2.2941+.0031	-.001	-.0036 0	.03	.18	.07
4329	Pulk <sub>ss</sub> 2420	6.0	56 44.767	87.5	+2.5314+.0033	-.001	-.0010 0	.12	.58	.18
4330	Pi 291	6.3	57 31.416	71.5	+1.0971+.0095	-.005	-.0057 0	.09	.38	.17
4331	Pi 269	7.0	57 51.516	76.7	+3.6875+.0103	-.013	-.0005 0	.12	.51	.21
4332	Br 2165	5.4	57 54.842	79.3	+2.2131+.0032	-.001	.0000 0	.06	.39	.14
4333	L 7111	6.9	58 9.956	88.0	+3.7763+.0116	-.015	+0.0065+ 2	.13	.98	.25
4334	L 7109	5.0	58 14.564	80.2	+3.9413+.0132	-.018	+0.0006 0	.11	.45	.17
4335	L 7069	7.1	58 29.028	83.7	+6.3781+.0682	-.166	-.0011+ 2	.16	.84	.28
4336	Br 2163	5.3	58 32.939	74.8	+2.7467+.0038	-.001	+0.0013 0	.11	.44	.19
4337	Br 2160	7.0	58 34.363	79.3	+3.6853+.0103	-.013	-.0018+ 1	.12	.58	.22
4338	Pi 273	6.4	58 49.814	75.0	+3.5501+.0088	-.010	-.0005 0	.13	.51	.22
4339	Pi 277	7.3	59 0.906	68.9	+3.3216+.0068	-.006	-.0002 0	.11	.51	.24
4340	Br 2164	6.1	59 3.522	71.0	+2.7547+.0038	-.001	-.0022 0	.09	.36	.17
4341	Br 2166	6.4	59 21.881	66.7	+2.7585+.0039	-.001	+0.0010+ 1	.12	.42	.21
4342	Paris 21575	8.0	59 50.947	80.4	+3.1218+.0072	-.005	-.0611+ 7	.12	.98	.31
4343	Br 2168	6.8	16 59 54.833	77.8	+2.1530+.0034	-.001	+0.0032 0	.11	.68	.24
4344	Br 2162	6.5	17 0 13.481	76.5	+3.5770+.0090	-.011	-.0021+ 1	.11	.48	.19
4345	Pi 289	5.7	0 22.987	72.5	+3.0890+.0052	-.004	-.0004 0	.11	.48	.21
4346	Br 2167	4.9	0 44.441	78.2	+2.7805+.0038	-.001	+0.0036 0	.06	.28	.11
4347	L 7102	6.8	0 58.667	86.5	+5.4565+.0399	-.088	-.0005 0	.20	.81	.27
4348	Dpt 1898	6.5	1 41.740	78.3	+3.1086+.0053	-.004	+0.0019 0	.13	.75	.27
4349	Pi 307	6.7	2 2.128	69.1	+1.8243+.0042	-.002	-.0008 0	.14	.57	.27
4350	Pulk <sub>ss</sub> 2434	6.0	17 2 4.175	87.4	+2.5358+.0034	-.001	-.0080 0	.12	.58	.18

4309 β 1117. 6<sup>M</sup>4-6<sup>M</sup>6 0<sup>h</sup>6 271°.4310 Σ 2110. 10<sup>M</sup> 18'' 92°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
4301	- 5 59 25.99	65.7	- 6.120+.447	+.06	-.029 0	.09	.39	.20	23 Ophiuchi
4302	+10 19 47.30	74.1	- 6.134+.396	+.05	-.046 0	.06	.28	.12	
4303	-16 38 49.21	77.8	- 5.974+.484	+.07	+.034+ 1	.08	.47	.17	
4304	-55 49 55.88	77.2	- 6.041+.690	+.20	-.041 0	.08	.40	.15	
4305	+42 59 48.24	81.9	- 6.327+.267	+.02	-.330+ 2	.08	.41	.14	
4306	-50 28 58.54	79.2	- 6.031+.645	+.16	-.051 0	.14	.57	.22	
4307	+21 7 9.60	83.0	- 5.983+.363	+.03	-.006+ 1	.11	.47	.17	
4308	-33 6 3.47	81.6	- 5.982+.546	+.11	-.010 0	.15	.69	.25	113 G Sc. (also 27 F)
4309	-22 59 29.37	84.2	- 5.968+.505	+.09	-.004 0	.08	.48	.15	24 Ophiuchi *
4310	+25 53 29.67	72.7	- 5.979+.344	+.03	-.029 0	.10	.32	.16	56 Hercules *
4311	+18 35 34.43	69.5	- 5.939+.368	+.04	+.008- 1	.09	.34	.16	54 Hercules *
4312	-19 22 53.95	76.3	- 5.948+.493	+.08	-.019 0	.11	.42	.18	South 8 <sup>m</sup> 5" 232°
4313	-53 0 24.06	75.4	- 5.893+.667	+.18	+.001 0	.09	.39	.16	25 G Aræ $\epsilon^1$
4314	+60 31 20.42	55.1	- 5.817+.117	+.03	-.012+ 1	.13	.55	.33	
4315	+ 9 31 49.04	73.6	- 5.797+.396	+.04	-.014- 3	.03	.16	.06	
4316	+25 30 25.04	75.8	- 5.744+.346	+.03	-.001 0	.08	.37	.15	57 Hercules
4317	+62 15 31.86	75.7	- 5.763+.078	+.04	-.050- 6	.09	.44	.18	
4318	-24 56 25.86	74.3	- 5.729+.515	+.09	-.022 0	.10	.43	.18	66 G Ophiuchi
4319	-24 50 11.82	78.1	- 5.756+.516	+.09	-.065 0	.09	.39	.16	67 G Ophiuchi
4320	-53 5 12.94	72.6	- 5.748+.672	+.17	-.151 0	.12	.51	.23	31 G Aræ $\epsilon^2$
4321	-31 59 41.67	82.7	- 5.637+.545	+.09	-.062 0	.10	.53	.18	117 G Scorpii
4322	+65 17 15.17	60.4	- 5.520+.053	+.05	+.049+ 5	.06	.24	.13	19 Draconis <i>h</i>
4323	- 4 4 22.20	78.9	- 5.632+.444	+.05	-.088 0	.07	.34	.13	30 Ophiuchi
4324	-57 34 3.70	84.9	- 5.563+.716	+.20	-.029 0	.15	.75	.24	32 G Aræ
4325	+65 11 28.30	61.8	- 5.502+.042	+.05	+.030- 1	.09	.32	.18	20 Draconis <i>h</i> <sup>2</sup> *
4326	-18 44 18.67	70.7	- 5.552+.493	+.07	-.027 0	.08	.35	.16	29 Ophiuchi
4327	+82 12 7.66	75.5	- 5.510-.880	+.94	-.001+ 1	.03	.13	.05	
4328	+31 4 24.46	71.1	- 5.466+.323	+.03	+.021 0	.04	.21	.09	
4329	+22 46 45.88	83.4	- 5.489+.357	+.03	-.026 0	.12	.48	.17	
4330	+56 50 6.61	64.3	- 5.371+.156	+.03	+.026- 1	.08	.31	.16	
4331	-25 33 19.52	76.2	- 5.396+.520	+.08	-.027 0	.12	.51	.21	28 Ophiuchi
4332	+33 42 46.10	73.1	- 5.376+.313	+.02	-.012 0	.06	.31	.13	59 Hercules <i>d</i>
4333	-28 26 3.49	88.1	- 5.622+.534	+.09	-.278+ 1	.14	1.07	.27	73 G Ophiuchi
4334	-33 58 56.31	70.0	- 5.336+.556	+.10	+.001 0	.10	.42	.20	120 G Scorpii <i>k</i>
4335	-68 42 38.96	79.0	- 5.358+.898	+.34	-.042 0	.12	.61	.22	46 G Trianguli Aust
4336	+14 14 8.73	72.8	- 5.378+.388	+.04	-.067 0	.09	.37	.17	(32 Ophiuchi)
4337	-25 30 9.77	76.8	- 5.393+.520	+.08	-.084 0	.12	.51	.21	31 Ophiuchi
4338	-20 21 15.02	79.0	- 5.325+.501	+.07	-.037 0	.12	.58	.22	
4339	-10 56 53.50	72.1	- 5.287+.469	+.06	-.015 0	.10	.48	.21	
4340	+13 44 49.59	62.3	- 5.312+.389	+.04	-.044 0	.09	.32	.18	(33 Ophiuchi)
4341	+13 42 40.49	54.9	- 5.376+.390	+.04	-.134 0	.12	.49	.30	(34 Ophiuchi)
4342	- 4 53 48.38	79.2	- 6.348+.433	+.05	-1.147- 9	.11	.87	.29	
4343	+35 33 18.91	72.3	- 5.239+.306	+.02	-.043 0	.10	.42	.19	61 Hercules ( <i>c</i> )
4344	-21 25 33.63	75.0	- 5.254+.506	+.07	-.085 0	.10	.39	.17	79 G Ophiuchi
4345	- 0 45 17.96	74.4	- 5.161+.437	+.05	-.005 0	.09	.40	.17	
4346	+12 52 40.64	77.0	- 5.143+.394	+.04	-.017 0	.05	.24	.10	60 Hercules
4347	-61 32 38.62	79.0	- 5.106+.771	+.22	.000 0	.14	.57	.23	34 G Aræ
4348	- 1 31 17.74	75.4	- 5.092+.441	+.05	-.047 0	.09	.46	.18	$\Sigma$ 2122. 9 <sup>m</sup> 20" 280°
4349	+43 56 52.17	56.4	- 5.030+.259	+.02	-.014 0	.13	.46	.28	
4350	+22 13 9.39	83.6	- 5.065+.359	+.03	-.052- 1	.12	.49	.18	

4311  $\beta$  954. 10<sup>m</sup> 3" 175°.4325  $\Sigma$  2118. 7<sup>m</sup>3-7<sup>m</sup>8 < 1", probably binary.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
4351	Pi 310	6.4	17 2 10.575	84.7	+ 1.5902+.0056	-.003	+ .0036+ 1	.12	.62	.20
4352	Pi 297	6.4	2 26.384	77.9	+ 3.4799+.0078	-.009	.0000 0	.10	.50	.19
4353	Pi 303	6.2	3 4.110	73.9	+ 3.0930+.0051	-.004	-.0008 0	.11	.51	.22
4354	$\mu$ Draconis <i>m</i>	5.1	3 15.765	65.2	+ 1.2407+.0074	-.004	-.0083- 1	.09	.40	.20
4355	L 7147	5.2	3 27.471	82.6	+ 4.3396+.0176	-.031	-.0031+ 1	.15	.78	.26
4356	Radcl 3658	5.7	4 16.207	91.8	+ 3.3157+.0065	-.006	+ .0055+ 1	.12	.78	.18
4357	Br 2173	7.2	4 25.507	82.0	+ 2.4776+.0032	-.001	-.0003 0	.12	.38	.16
4358	Pi 3	5.6	4 29.333	70.2	+ 2.1258+.0033	-.001	-.0016 0	.10	.54	.23
4359	Groomb 2415	6.4	4 30.992	83.3	+ 1.9559+.0038	-.001	-.0025 0	.06	.46	.14
4360	$\eta$ Ophiuchi <i>m</i>	2.4	4 38.550	72.6	+ 3.4372+.0071	-.008	+ .0025- 1	.03	.16	.07
4361	$\eta$ Scorpii	3.3	4 59.418	73.3	+ 4.2896+.0169	-.029	+ .0022+ 4	.09	.40	.18
4362	L 7159 <i>m</i>	5.8	5 21.714	85.8	+ 4.1366+.0144	-.024	-.0018+ 1	.12	.66	.20
4363	Pi 311	7.2	5 57.549	84.4	+ 3.7278+.0097	-.014	-.0043+ 1	.14	.78	.24
4364	Pulk <sub>ss</sub> 2441	5.3	6 18.780	87.9	+ 1.9415+.0037	-.001	-.0047 0	.12	.60	.18
4365	Br 2177	6.5	6 54.712	73.9	+ 2.4822+.0031	-.001	-.0012 0	.09	.58	.23
4366	Br 2178	5.6	7 44.924	64.8	+ 2.8261+.0038	-.002	-.0001 0	.13	.48	.26
4367	Br 2174	7.2	8 0.497	78.4	+ 3.7312+.0094	-.014	-.0008+ 1	.10	.46	.18
4368	$\zeta$ Draconis	3.1	8 29.787	74.1	+ 0.1661+.0190	-.006	-.0021- 1	.04	.21	.08
4369	L 7179	5.7	8 45.355	85.2	+ 3.9333+.0111	-.019	+ .0006 0	.13	.78	.23
4370	Br 2176 <sup>1</sup>	5.4	9 11.823	77.0	+ 3.6860+.0107	-.014	-.0351+ 8	.08	.42	.16
4371	Br 2176 <sup>2</sup>	5.4	9 11.944	73.4	+ 3.6845+.0107	-.014	-.0366+ 8	.08	.38	.16
4372	Br 2179	7.0	10 4.424	75.0	+ 3.6840+.0106	-.014	-.0361+ 8	.10	.44	.18
4373	$\alpha^1$ Herculis	Var.	10 5.245	66.7	+ 2.7340+.0034	-.002	-.0008 0	.02	.12	.06
4374	$\alpha^2$ Herculis	6.5	10 5.555	74.8	+ 2.7344+.0034	-.002	-.0004 0	.09	.62	.24
4375	L 7202	5.7	10 33.285	82.9	+ 3.8979+.0106	-.019	-.0077 0	.10	.52	.18
4376	$\delta$ Herculis	3.1	10 55.435	79.4	+ 2.4628+.0033	-.001	-.0018+ 1	.04	.20	.07
4377	$\iota$ Apodis	5.8	10 56.465	80.7	+ 6.6614+.0614	-.209	-.0025+ 1	.12	.62	.22
4378	L 7194	5.7	11 27.710	89.2	+ 4.5427+.0163	-.036	+ .0919- 1	.20	1.98	.46
4379	Br 2184	4.9	11 28.609	83.8	+ 3.0781+.0046	-.004	-.0018 0	.07	.45	.14
4380	$\zeta$ Apodis	4.8	11 32.304	82.9	+ 6.2467+.0498	-.163	-.0063- 1	.16	.81	.27
4381	$\pi$ Herculis	3.2	11 33.834	78.6	+ 2.0883+.0033	-.001	-.0021 0	.03	.21	.08
4382	Pi 61	5.6	11 40.778	72.9	+ 0.5103+.0135	-.006	+ .0015- 2	.10	.51	.22
4383	Pi 31	6.9	11 54.651	85.4	+ 3.6536+.0081	-.014	-.0055 0	.12	.69	.21
4384	Br 2181	5.5	11 54.696	78.8	+ 3.6544+.0081	-.014	-.0048 0	.11	.42	.17
4385	Br 2182	7.0	12 0.613	80.8	+ 3.6601+.0082	-.013	+ .0068+ 1	.11	.50	.18
4386	L 7215 <i>m</i>	6.0	12 8.746	81.2	+ 4.0796+.0116	-.020	+ .0959+ 3	.15	1.16	.37
4387	L 7088	6.1	12 45.067	78.4	+ 11.1208+.2378	-1.387	+ .0017+ 11	.07	.57	.19
4388	Br 2194	Var.	13 37.883	76.1	+ 2.2138+.0031	-.001	-.0016 0	.07	.34	.14
4389	Br 2191	5.3	13 54.856	71.0	+ 2.8182+.0037	-.003	-.0002+ 1	.10	.42	.19
4390	Pi 43	6.2	14 4.057	77.7	+ 3.4888+.0066	-.010	-.0003 0	.09	.46	.18
4391	Br 2195	4.8	14 13.288	52.2	+ 2.0676+.0031	-.001	-.0034 0	.09	.36	.23
4392	L 7199	6.0	14 37.638	91.3	+ 5.6212+.0337	-.105	+ .0030 0	.20	1.11	.28
4393	Pi 64	6.0	14 53.185	73.9	+ 2.3512+.0030	-.001	+ .0032 0	.15	.69	.29
4394	$\xi$ Ophiuchi	4.5	15 0.623	68.6	+ 3.5928+.0074	-.011	+ .0171+ 2	.06	.28	.13
4395	$\nu$ Serpentis	4.4	15 12.130	64.3	+ 3.3714+.0058	-.008	+ .0025 0	.09	.38	.19
4396	Groomb 2433	6.7	15 16.590	72.8	+ 0.7227+.0108	-.005	-.0060 0	.12	.58	.25
4397	Br 2188	6.9	15 33.510	78.8	+ 3.6753+.0078	-.014	-.0031 0	.10	.52	.19
4398	$\iota$ Aræ	5.5	15 45.658	87.1	+ 4.4979+.0158	-.038	+ .0007+ 1	.18	1.17	.32
4399	$\theta$ Ophiuchi	3.2	15 52.060	73.2	+ 3.6811+.0078	-.014	-.0001 0	.03	.21	.09
4400	Pi 68	5.3	17 15 54.425	75.9	+ 2.6426+.0032	-.001	+ .0005 0	.16	.72	.30

4362 Sec.  $6^M 3-6^M 9$   $0'' 6$   $294^\circ$ .  
 4378  $8^M 2'' 69^\circ$ , binary.

4363  $\beta$  125.  $7^M 2-9^M 5$   $1'' 6$   $64^\circ$ .  
 4384 W. H.  $6^M 9$   $11'' 355^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10			Remarks.
	" ' "		" "	"	"	"	"	"	
4351	+48 56 30.21	80.4	-5.086+ .227	+ .02	- .082 0	.10	.47	.17	
4352	-17 28 35.65	77.6	-5.004+ .493	+ .06	- .022 0	.10	.46	.18	
4353	- 0 56 51.38	79.8	-4.959+ .439	+ .05	- .030 0	.11	.46	.18	
4354	+54 36 7.04	56.2	-4.831+ .176	+ .02	+ .081- 1	.06	.24	.14	$\Sigma$ 2130. 5 <sup>M</sup> 8-5 <sup>M</sup> 9 2 <sup>1</sup> / <sub>3</sub> 147°, slow
4355	-44 25 42.78	77.6	-4.950+ .615	+ .11	- .054 0	.12	.56	.22	125 G Scorpii
4356	-10 23 34.14	91.6	-4.939+ .472	+ .06	- .112+ 1	.12	.75	.18	
4357	+24 36 59.79	78.0	-4.872+ .353	+ .03	- .058 0	.11	.36	.16	62 Herculis
4358	+36 3 53.46	67.7	-4.831+ .303	+ .02	- .023 0	.08	.45	.21	Hough. 12 <sup>M</sup> 20'' 142°
4359	+40 38 47.75	79.4	-4.834+ .278	+ .02	- .028 0	.06	.38	.13	
4360	-15 36 4.36	73.2	-4.709+ .489	+ .06	+ .086 0	.04	.18	.08	$\beta$ 1118. 3 <sup>M</sup> 0-3 <sup>M</sup> 5 0 <sup>1</sup> / <sub>5</sub> 251°, slow
4361	-43 6 26.35	72.0	-5.060+ .610	+ .11	- .294 0	.08	.34	.15	
4362	-39 22 53.94	83.6	-4.810+ .588	+ .10	- .076 0	.13	.67	.22	127 G Scorpii *
4363	-26 55 2.13	77.2	-4.768+ .530	+ .07	- .085- 1	.12	.55	.22	93 G Ophiuchi *
4364	+40 54 7.24	84.5	-4.656+ .277	+ .02	- .003- 1	.12	.51	.18	
4365	+24 21 34.45	71.4	-4.588+ .354	+ .03	+ .014 0	.09	.47	.20	63 Herculis
4366	+10 42 22.00	59.5	-4.567+ .403	+ .04	- .036 0	.12	.43	.25	37 Ophiuchi
4367	-26 51 53.11	80.5	-4.583+ .532	+ .07	- .074 0	.10	.42	.16	99 G Ophiuchi
4368	+65 50 15.89	73.0	-4.447+ .025	+ .04	+ .020 0	.04	.19	.08	
4369	-33 25 57.58	79.8	-4.441+ .561	+ .08	+ .004 0	.13	.60	.22	134 G Scorpii
4370	-26 27 21.71	72.2	-5.550+ .521	+ .07	-1.142- 5	.08	.37	.16	} Sh. 4'' 192°, slow binary
4371	-26 27 16.71	74.0	-5.529+ .521	+ .07	-1.122- 5	.10	.44	.19	
4372	-26 24 7.12	74.8	-5.456+ .521	+ .07	-1.123- 5	.10	.45	.19	(30 Sc.) 106 G Oph.
4373	+13 30 14.87	65.2	-4.304+ .391	+ .03	+ .027 0	.02	.11	.06	Var. 3 <sup>M</sup> 1 to 3 <sup>M</sup> 9
4374	+14 30 12.60	72.0	-4.300+ .391	+ .03	+ .031 0	.08	.49	.20	$\Sigma$ 2140. 5'' 114°, v. slow
4375	-32 32 59.53	78.8	-4.347+ .556	+ .08	- .055- 1	.10	.45	.17	139 G Scorpii
4376	+24 57 24.95	74.1	-4.423+ .352	+ .02	- .163 0	.04	.22	.09	See Appendix
4377	-70 1 4.11	79.8	-4.276+ .950	+ .30	- .017 0	.11	.50	.19	
4378	-46 31 55.39	86.4	-4.007+ .663	+ .11	+ .207+ 14	.16	1.24	.33	41 G Aræ *
4379	- 0 19 56.88	77.3	-4.272+ .440	+ .04	- .059 0	.08	.33	.13	41 Ophiuchi
4380	-67 39 57.33	80.8	-4.195+ .891	+ .26	+ .013- 1	.13	.67	.24	
4381	+36 55 17.93	76.5	-4.207+ .299	+ .02	- .002 0	.04	.27	.10	
4382	+62 59 18.21	66.0	-4.149+ .075	+ .03	+ .046 0	.09	.38	.19	
4383	-24 10 30.15	78.0	-4.185+ .522	+ .06	- .008- 1	.12	.49	.20	} 113 G Ophiuchi
4384	-24 10 41.10	74.3	-4.191+ .522	+ .06	- .015- 1	.10	.39	.17	} 39 Ophiuchi (112 G) *
4385	-23 57 44.87	78.5	-4.244+ .525	+ .06	- .077+ 1	.11	.49	.19	114 G Ophiuchi
4386	-34 52 39.88	73.4	-4.335+ .598	+ .08	- .179+ 14	.16	1.27	.49	142 G Scorpii *
4387	-80 45 58.37	78.6	-4.147+ 1.589	+ .99	- .043 0	.06	.51	.17	59 G Apodis
4388	+33 12 27.40	75.0	-4.041+ .318	+ .02	- .013 0	.07	.32	.13	68 Herculis u *
4389	+10 58 21.51	65.4	-4.103+ .404	+ .03	- .099 0	.09	.32	.17	(66 Herc.) (Oph. e)
4390	-17 39 6.67	77.7	-4.012+ .500	+ .05	- .021 0	.10	.47	.18	*
4391	+37 23 45.77	62.3	-3.925+ .297	+ .02	+ .053 0	.07	.27	.14	69 Herculis e
4392	-62 45 56.18	86.7	-3.954+ .806	+ .18	- .011 0	.15	.81	.24	46 G Aræ
4393	+28 55 38.21	66.2	-3.936+ .338	+ .02	- .015 0	.13	.58	.28	
4394	-21 0 20.02	66.0	-4.117+ .518	+ .05	- .207+ 2	.06	.30	.15	
4395	-12 44 43.94	64.1	-3.892+ .484	+ .04	+ .002 0	.08	.29	.15	W. H. 9 <sup>M</sup> 5 47'' 30°
4396	+60 46 35.97	68.7	-3.876+ .104	+ .02	+ .011- 1	.10	.41	.20	
4397	-24 48 18.12	78.2	-3.902+ .527	+ .06	- .039 0	.10	.49	.19	
4398	-47 22 12.29	79.2	-3.890+ .645	+ .10	- .044 0	.14	.65	.24	
4399	-24 53 59.30	72.6	-3.867+ .528	+ .06	- .031 0	.04	.22	.09	
4400	+18 9 35.64	68.2	-3.884+ .380	+ .03	- .051 0	.15	.60	.29	

4386  $\beta$  416. 6<sup>M</sup>0-8<sup>M</sup>0 < 2'', binary, 46 yrs.  $\pm$ ; h 4935. 10<sup>M</sup> 30'' 130°, fixed.4388 4<sup>M</sup>6-5<sup>M</sup>4. O $\Sigma$  328. 10<sup>M</sup> 4'' 60°.4390  $\beta$  126. 8<sup>M</sup>2 2'' 262°; 12<sup>M</sup> 11'' 139°.



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
4401	Pi 71	5.6	17 16 5.255	76.7	+2.4440+.0030	-.001	+0.0014 0	.14	.84	.31
4402	Br 2197	5.5	16 47.049	62.5	+2.4700+.0029	-.001	-.0013 0	.09	.39	.21
4403	Br 2199	5.5	16 55.050	77.1	+2.2427+.0048	-.001	+0.0099+ 9	.06	.27	.10
4404	L 7247	5.3	16 58.090	87.6	+4.3410+.0136	-.033	-.0022 0	.15	.99	.27
4405	$\gamma$ Aræ	3.4	16 58.550	71.4	+5.0395+.0225	-.065	-.0003 0	.10	.40	.19
4406	$\beta$ Aræ	2.7	16 59.153	72.0	+4.9763+.0217	-.062	-.0018+ 1	.10	.44	.19
4407	Br 2192	5.5	17 3.927	76.6	+3.7723+.0083	-.016	+0.0004 0	.10	.48	.19
4408	Br 2203	5.8	17 31.617	70.4	+1.6928+.0041	-.002	-.0031 0	.08	.38	.17
4409	Groomb 2437	7.1	17 46.136	74.6	-0.9495+.0331	+0.009	-.0030+ 1	.08	.57	.22
4410	$\kappa$ Aræ	5.3	18 12.073	85.2	+4.6674+.0169	-.047	-.0017 0	.18	.88	.28
4411	Groomb 2435	5.7	18 26.712	76.7	+1.9670+.0035	-.001	+0.0005+ 1	.10	.48	.19
4412	Pi 79	7.8	18 29.044	95.5	+3.2841+.0051	-.007	-.0027 0	.13	.63	.16
4413	Pi 76	6.2	18 43.131	80.0	+3.5843+.0068	-.012	-.0019 0	.09	.45	.16
4414	Br 2196	6.9	18 59.422	71.6	+3.6624+.0072	-.013	+0.0003 0	.11	.40	.19
4415	L 7267 <i>m</i>	5.8	19 28.963	78.6	+4.4218+.0138	-.035	-.0012+ 1	.20	1.10	.39
4416	Br 2204	5.9	19 55.496	69.0	+2.5089+.0030	-.001	-.0034 0	.09	.45	.21
4417	L 7265	6.0	19 59.862	90.3	+4.7705+.0176	-.052	+0.0009+ 1	.20	1.04	.28
4418	Pi 95	5.9	20 2.775	76.4	+2.6870+.0031	-.002	+0.0019 0	.15	1.00	.37
4419	$\rho$ Herculis	4.6	20 13.961	69.7	+2.0686+.0031	-.001	-.0032 0	.05	.26	.12
4420	Br 2198	4.2	20 15.738	75.8	+3.6603+.0073	-.013	-.0005+ 1	.05	.26	.10
4421	Br 2200	4.3	20 58.098	81.5	+3.8274+.0083	-.017	+0.0014+ 1	.06	.34	.12
4422	Br 2208	6.7	20 59.264	80.3	+2.0750+.0030	-.001	-.0033 0	.11	.45	.17
4423	Pi 99	4.6	21 19.489	83.8	+3.1814+.0045	-.006	-.0062 0	.07	.51	.15
4424	Br 2202	6.5	21 25.286	68.6	+3.3642+.0053	-.008	+0.0016 0	.12	.50	.24
4425	$\sigma$ Ophiuchi	4.5	21 33.158	74.3	+2.9751+.0037	-.003	+0.0002 0	.04	.24	.10
4426	$\delta$ Aræ	3.6	22 4.214	74.9	+5.4042+.0254	-.091	-.0076+ 2	.12	.51	.22
4427	Pi 109	5.6	22 30.166	70.8	+2.5888+.0029	-.001	+0.0007 0	.10	.46	.21
4428	Pi 112	5.5	23 43.568	72.8	+3.0587+.0038	-.004	-.0042 0	.11	.42	.19
4429	$\nu$ Scorpii	2.7	23 57.875	86.1	+4.0746+.0094	-.024	-.0002 0	.08	.45	.14
4430	Br 2211	6.0	24 5.170	79.6	+1.5884+.0044	-.003	.0000 0	.06	.28	.10
4431	$\alpha$ Aræ	2.7	24 6.644	68.6	+4.6309+.0146	-.045	-.0034+ 1	.09	.38	.18
4432	Radcl 3714	5.7	24 23.761	78.3	+0.7732+.0086	-.005	.0000- 1	.09	.50	.18
4433	Dpt 1949 <i>m</i>	5.4	25 14.911	79.8	+3.0866+.0041	-.004	-.0083+ 1	.08	.56	.19
4434	Br 2209	4.9	25 18.834	73.7	+3.6575+.0064	-.013	+0.0001 0	.06	.26	.11
4435	Pi 117	6.1	25 31.791	80.3	+3.7220+.0067	-.015	-.0003 0	.11	.52	.19
4436	L 7325	6.3	26 4.316	87.1	+4.2271+.0100	-.029	+0.0017 0	.15	.88	.25
4437	Pi 127	5.8	26 20.408	60.2	+3.0054+.0035	-.004	-.0023 0	.11	.57	.31
4438	$\lambda$ Herculis	4.7	26 41.800	67.5	+2.4232+.0028	-.001	+0.0011 0	.07	.30	.15
4439	$\lambda$ Scorpii	1.5	26 49.072	80.4	+4.0697+.0087	-.023	-.0003 0	.07	.30	.12
4440	Pi 143	6.0	27 8.156	73.0	+2.2708+.0028	-.001	+0.0006 0	.16	.80	.34
4441	Br 2214	5.9	27 53.914	62.3	+2.3551+.0027	-.001	+0.0007 0	.12	.46	.25
4442	Pulk <sub>55</sub> 2481	5.8	28 9.508	89.9	+3.2009+.0042	-.006	-.0029+ 1	.12	.66	.18
4443	$\beta$ Draconis	2.8	28 10.381	67.7	+1.3537+.0050	-.003	-.0015 0	.03	.14	.06
4444	Brisb 6125	5.9	28 10.431	84.0	+3.9152+.0074	-.019	-.0008 0	.11	.81	.24
4445	$\sigma$ Aræ	4.7	28 12.785	80.4	+4.4602+.0114	-.038	-.0039 0	.18	.84	.31
4446	Pulk <sub>55</sub> 2483	5.8	29 2.071	92.0	+2.6059+.0030	-.001	-.0019+ 1	.10	.75	.17
4447	Pulk <sub>55</sub> 2484	5.8	29 10.951	88.7	+2.6815+.0030	-.002	-.0013 0	.11	.68	.18
4448	Grw <sub>40</sub> 1501	5.7	29 12.647	90.6	+3.3314+.0044	-.007	-.0026 0	.13	.63	.18
4449	Br 2212	6.7	29 17.491	73.8	+3.6062+.0056	-.012	-.0006 0	.10	.34	.16
4450	L 7350	4.3	17 29 39.567	84.8	+4.1268+.0089	-.025	-.0018+ 2	.14	.63	.21

4413 Hough. 12<sup>M</sup> 4" 46".4415 h 4949. 5<sup>M</sup>8-7<sup>M</sup>1 2"5 260°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
4401	+25 38 20.53	68.2	- 3.837+.351	+.02	- .019 0	.13	.60	.28	
4402	+24 35 55.92	67.6	- 3.759+.355	+.02	- .001 0	.08	.35	.17	70 Hercules
4403	+32 35 46.00	74.1	- 4.799+.324	+.02	- 1.053+1	.05	.25	.10	72 Hercules <i>w</i>
4404	-44 3 59.43	83.2	- 3.774+.623	+.09	- .032 0	.11	.69	.22	146 G Scorpii
4405	-56 17 0.30	72.6	- 3.754+.724	+.13	- .013 0	.08	.37	.16	
4406	-55 26 6.94	75.2	- 3.773+.714	+.12	- .033 0	.09	.39	.16	
4407	-28 2 45.37	74.0	- 3.776+.542	+.06	- .042 0	.10	.45	.19	43 Ophiuchi
4408	+46 20 19.51	64.0	- 3.656+.244	+.02	+ .038 0	.07	.30	.16	74 Hercules
4409	+71 53 46.85	71.4	- 3.684-.135	+.08	- .011 0	.06	.38	.16	
4410	-50 32 31.30	78.2	- 3.639+.671	+.10	- .003 0	.13	.58	.23	
4411	+40 4 21.39	75.5	- 3.692+.284	+.02	- .077 0	.09	.38	.16	
4412	- 9 15 51.21	87.5	- 3.625+.472	+.04	- .013 0	.11	.41	.14	
4413	-21 20 53.71	80.8	- 3.627+.515	+.05	- .036 0	.10	.48	.17	132 G Ophiuchi *
4414	-24 9 8.49	75.0	- 3.569+.527	+.05	- .001 0	.11	.40	.18	
4415	-45 45 12.27	74.3	- 3.577+.636	+.08	- .051 0	.16	.85	.34	56 G Aræ *
4416	+23 3 11.30	60.8	- 3.530+.361	+.02	- .042 0	.10	.43	.23	73 Hercules
4417	-52 12 30.12	87.0	- 3.535+.686	+.10	- .054 0	.16	.80	.24	58 G Aræ
4418	+16 23 34.46	70.2	- 3.511+.388	+.03	- .034 0	.13	.73	.32	
4419	+37 14 15.65	70.0	- 3.465+.298	+.02	- .004 0	.05	.23	.10	See Appendix
4420	-24 5 0.39	77.2	- 3.590+.527	+.05	- .132 0	.05	.26	.10	44 Ophiuchi <i>b</i>
4421	-29 46 35.84	76.6	- 3.554+.552	+.06	- .156 0	.07	.33	.13	45 Ophiuchi <i>d</i>
4422	+37 2 26.55	77.8	- 3.361+.299	+.02	+ .035 0	.10	.44	.17	$\Omega$ 329. $8^m 5 33'' 13^\circ$
4423	- 4 59 53.95	78.7	- 3.416+.458	+.04	- .049-1	.07	.38	.14	141 G Ophiuchi
4424	-12 25 27.43	69.1	- 3.430+.485	+.04	- .071 0	.09	.37	.18	
4425	+ 4 13 37.55	74.2	- 3.344+.429	+.03	+ .003 0	.05	.24	.10	
4426	-60 36 0.53	77.5	- 3.388+.778	+.13	- .085-1	.11	.47	.19	
4427	+20 9 57.52	70.4	- 3.253+.374	+.02	+ .012 0	.09	.47	.21	
4428	+ 0 24 41.96	75.2	- 3.139+.441	+.03	+ .021-1	.10	.41	.17	
4429	-37 12 57.60	80.7	- 3.181+.588	+.06	- .042 0	.09	.39	.14	
4430	+48 20 37.65	70.8	- 3.143+.230	+.02	- .015 0	.06	.26	.12	77 Hercules $\propto$
4431	-49 47 48.48	71.4	- 3.210+.668	+.09	- .084 0	.08	.34	.15	
4432	+60 7 56.30	78.4	- 3.067+.113	+.02	+ .035 0	.07	.49	.17	
4433	- 0 58 48.17	77.0	- 3.203+.445	+.03	- .175-1	.07	.37	.14	*
4434	-23 53 7.55	75.8	- 3.060+.528	+.04	- .038 0	.07	.29	.12	51 Ophiuchi <i>c</i> <sup>2</sup>
4435	-26 11 35.05	78.3	- 3.035+.538	+.04	- .031 0	.12	.52	.20	151 G Ophiuchi
4436	-41 5 57.54	87.4	- 2.985+.611	+.07	- .028 0	.14	.77	.22	155 G Scorpii
4437	+ 2 47 57.75	59.0	- 2.915+.434	+.02	+ .019 0	.11	.54	.30	
4438	+26 11 9.06	70.2	- 2.880+.351	+.02	+ .014 0	.07	.28	.13	
4439	-37 1 51.25	76.2	- 2.928+.588	+.06	- .036 0	.07	.30	.13	
4440	+31 13 57.16	65.5	- 2.861+.329	+.02	+ .004 0	.14	.64	.32	
4441	+28 28 47.02	63.7	- 2.775+.341	+.02	+ .024 0	.11	.55	.28	78 Hercules
4442	- 5 40 17.79	84.9	- 2.875+.463	+.03	- .099 0	.11	.52	.17	
4443	+52 22 31.00	67.7	- 2.768+.196	+.02	+ .007 0	.03	.12	.06	$\beta$ 1090. $14^m 4'' 13^\circ$
4444	-32 30 44.95	78.6	- 2.789+.566	+.05	- .014 0	.12	.75	.26	L (7345) 157 G Scorpii *
4445	-46 26 12.05	78.8	- 2.811+.645	+.07	- .039-1	.14	.71	.26	
4446	+19 19 44.11	90.3	- 2.791+.377	+.02	- .091 0	.08	.64	.15	
4447	+16 23 17.89	85.8	- 2.743+.388	+.02	- .055 0	.12	.56	.18	
4448	-11 10 27.61	80.3	- 2.685+.482	+.03	.000 0	.10	.41	.16	h 4964. $8^m 54'' 226^\circ$
4449	-21 58 34.91	80.0	- 2.691+.522	+.04	- .013 0	.10	.37	.15	52 Ophiuchi
4450	-38 33 53.00	80.1	- 2.861+.597	+.05	- .215 0	.12	.53	.20	159 G Ophiuchi <i>Q</i>

4433  $\Sigma$  2173.  $6^m 1-6^m 4$   $1'' \pm$ , binary, 46 yrs.  $\pm$ .4444 h 4962.  $10^m 6'' 102^\circ$ .

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
4451	Br 2216	6.9	17	29	45.726	69.0	+2.7612+.0030	-.002	+0.0003 0	.09	.38	.18
4452	Pi 149	8.2	29	51.273		97.9	+2.8476+.0031	-.003	+0.0004 0	.14	.75	.17
4453	Br 2215	6.0	29	51.777		70.2	+2.8464+.0031	-.003	-0.0006 0	.12	.56	.25
4454	$\pi$ Aræ	5.4	29	52.827		91.2	+4.9225+.0154	-.061	-0.0027+ 3	.16	1.06	.26
4455	Groomb 2444	6.0	29	56.891		76.5	+1.9007+.0034	-.001	-0.0070+ 1	.10	.42	.17
4456	L 7078	6.6	29	59.64		83.6	+18.747+.538		-0.026+111	.08	1.04	.28
4457	$\theta$ Scorpii	1.8	30	7.955		74.4	+4.3056+.0096	-.032	+0.0004 0	.10	.40	.18
4458	$\nu^1$ Draconis	5.0	30	12.387		75.0	+1.1795+.0054	-.004	+0.0176- 1	.04	.24	.10
4459	$\alpha$ Ophiuchi	2.0	30	17.545		68.3	+2.7833+.0033	-.002	+0.0080+ 2	.03	.11	.05
4460	$\nu^2$ Draconis	5.0	30	17.791		74.5	+1.1810+.0054	-.004	+0.0184- 1	.04	.24	.10
4461	Pi 163	6.1	31	43.218		72.2	+2.5625+.0028	-.002	+0.0009 0	.14	.62	.27
4462	$\xi$ Serpentis	3.4	31	51.610		79.2	+3.4331+.0046	-.009	-0.0030 0	.04	.27	.09
4463	Pi 156	6.1	31	51.890		68.8	+3.4392+.0046	-.009	-0.0012 0	.15	.60	.29
4464	Br 2234	5.3	32	21.798		79.2	-0.2470+.0140	.000	-0.0024- 6	.05	.28	.10
4465	$\mu$ Ophiuchi	4.6	32	24.549		79.7	+3.2599+.0039	-.007	-0.0003 0	.08	.39	.14
4466	$\lambda$ Aræ	5.0	32	40.416		83.5	+4.6291+.0116	-.045	+0.0111+ 3	.18	1.10	.34
4467	Br 2219	7.1	32	44.302		80.0	+3.6026+.0051	-.013	-0.0019 0	.10	.48	.18
4468	Br 2223	6.0	33	23.888		65.2	+2.4693+.0027	-.001	-0.0017 0	.10	.39	.20
4469	L 7382	7.4	33	30.018		79.9	+3.9065+.0064	-.020	.0000 0	.12	.70	.25
4470	Pi 201	5.4	33	57.383		75.1	+0.6146+.0111	-.004	+0.0344+14	.08	.45	.18
4471	Br 2227	5.7	34	0.698		54.8	+1.5661+.0037	-.003	+0.0023- 1	.12	.40	.25
4472	Pi 177	6.4	34	5.624		67.8	+3.0269+.0032	-.005	+0.0029 0	.15	.62	.30
4473	Br 2240	7.2	35	26.485		74.8	-1.6696+.0283	+0.042	-0.0180- 2	.10	.44	.18
4474	$\kappa$ Scorpii	2.4	35	34.178		80.6	+4.1467+.0072	-.027	-0.0009 0	.08	.33	.12
4475	$\sigma$ Serpentis	4.4	35	47.648		71.8	+3.3700+.0040	-.008	-0.0048 0	.06	.24	.11
4476	$\eta$ Pavonis	3.5	35	55.026		79.1	+5.8797+.0211	-.134	-0.0013+ 2	.10	.54	.20
4477	L 7397	5.8	36	3.646		87.2	+4.0704+.0067	-.024	+0.0003 0	.12	.69	.20
4478	$\mu$ Aræ	5.3	36	12.259		90.4	+4.7589+.0114	-.053	+0.0015+ 3	.15	.98	.24
4479	$\epsilon$ Herculis	3.8	36	38.488		78.9	+1.6919+.0034	-.002	-0.0008 0	.03	.20	.07
4480	Br 2228	6.6	36	59.023		60.4	+2.4633+.0025	-.001	-0.0013 0	.12	.48	.27
4481	Br 2226	5.0	37	26.254		66.0	+3.5935+.0046	-.013	-0.0064 0	.06	.33	.16
4482	Pi 203	5.7	37	29.333		81.0	+2.6908+.0025	-.002	-0.0002- 1	.09	.44	.15
4483	$\omega$ Draconis	5.0	37	32.126		73.4	-0.3557+.0106	+0.003	+0.0018-16	.05	.27	.11
4484	Groomb 2458 m	7.2	38	5.004		86.2	+1.8858+.0030	-.001	-0.0011 0	.13	.46	.17
4485	Pi 195	7.0	38	22.130		73.4	+3.6152+.0044	-.013	+0.0012 0	.12	.45	.20
4486	Br 2232	5.9	38	22.313		68.8	+2.4582+.0027	-.001	-0.0046+ 1	.09	.38	.18
4487	$\beta$ Ophiuchi	2.9	38	31.943		73.2	+2.9623+.0027	-.004	-0.0028- 1	.03	.16	.07
4488	Br 2235	6.1	39	15.314		68.0	+2.4610+.0024	-.001	-0.0084 0	.09	.33	.16
4489	Br 2231	6.5	39	32.708		80.4	+3.0112+.0029	-.004	-0.0002 0	.12	.39	.16
4490	Pi 216	6.9	39	34.113		92.6	+3.0118+.0029	-.004	+0.0004 0	.13	.63	.17
4491	L 7413	6.4	40	17.808		86.8	+4.9957+.0104	-.066	-0.0043 0	.20	.87	.28
4492	$\epsilon$ Scorpii	3.0	40	35.431		76.1	+4.1935+.0062	-.028	+0.0003 0	.08	.34	.14
4493	X Sagittarii	Var.	41	15.938		72.8	+3.7740+.0045	-.016	-0.0004 0	.06	.30	.13
4494	Pulk <sub>ss</sub> 2510	5.8	41	53.909		83.9	+1.2519+.0044	-.004	+0.0028+ 1	.09	.63	.19
4495	Pi 223	6.5	42	12.582		78.9	+3.7484+.0043	-.016	-0.0011 0	.13	.57	.22
4496	L 7426	6.0	42	20.111		89.3	+4.8780+.0088	-.060	-0.0003 0	.20	.98	.28
4497	$\mu$ Herculis	3.4	42	32.657		75.5	+2.3460+.0038	-.001	-0.0244+ 6	.03	.15	.06
4498	L 7451	5.0	42	40.697		82.1	+3.8946+.0047	-.019	+0.0002 0	.11	.57	.19
4499	Pulk <sub>ss</sub> 2509	5.8	42	43.159		79.4	+2.6454+.0025	-.002	-0.0008 0	.13	.80	.27
4500	$\gamma$ Ophiuchi	3.8	17	42	52.693	71.0	+3.0067+.0029	-.004	-0.0018 0	.04	.21	.09

4451  $\Sigma$  2184. 11<sup>M</sup> 22" 74°.4484  $\Sigma$  2203. 7<sup>M</sup>8-8<sup>M</sup>1 0"7 322°, very slow.4470  $\beta$  962. 10<sup>M</sup> 1", binary.4491 h 4975. 10<sup>M</sup> 2" 90°?



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
4451	+13 13 45.72	64.2	-2.673+ .400	+ .02	-.036 0	.08	.33	.17	54 Ophiuchi *
4452	+ 9 38 34.28	89.0	-2.633+ .413	+ .02	-.004 0	.12	.49	.16	} $\Sigma$ App. 41" 191° 53 Ophiuchi <i>f</i>
4453	+ 9 39 14.62	58.6	-2.643+ .412	+ .02	-.015 0	.09	.33	.19	
4454	-54 25 59.50	83.8	-2.778+ .712	+ .08	-.151 0	.12	.60	.20	
4455	+41 18 50.14	71.6	-2.694+ .275	+ .02	-.072- 1	.10	.36	.17	
4456	-85 10 34.13	82.8	-2.748+ 2.707		-.131- 4	.08	1.04	.29	29 G Octantis
4457	-42 56 2.92	73.6	-2.616+ .624	+ .06	-.011 0	.09	.37	.16	
4458	+55 15 8.90	69.2	-2.550+ .174	+ .01	+ .049+ 2	.05	.21	.10	See $\nu^2$ $\Sigma$ App. 62" 312°
4459	+12 37 57.46	67.1	-2.826+ .405	+ .02	-.235+ 1	.02	.11	.05	
4460	+55 14 27.47	69.0	-2.541+ .175	+ .01	+ .051+ 3	.06	.22	.10	See $\nu^1$ $\Sigma$ App.
4461	+21 3 35.50	61.7	-2.492+ .372	+ .01	-.025 0	.11	.44	.24	$\Sigma$ 2190. 10 <sup>M</sup> 10" 24°
4462	-15 20 8.65	77.0	-2.526+ .497	+ .03	-.071 0	.06	.28	.11	
4463	-15 30 36.15	64.7	-2.470+ .498	+ .03	-.015 0	.12	.44	.23	
4464	+68 11 55.60	73.6	-2.275- .035	+ .04	+ .137 0	.04	.22	.09	27 Draconis <i>f</i>
4465	- 8 3 28.54	67.3	-2.433+ .473	+ .03	-.025 0	.08	.26	.13	
4466	-49 21 13.53	77.6	-2.564+ .673	+ .07	-.179+ 2	.13	.67	.25	
4467	-21 51 12.91	81.0	-2.399+ .522	+ .03	-.020 0	.11	.51	.18	158 G Ophiuchi
4468	+24 22 9.11	57.5	-2.325+ .358	+ .01	-.003 0	.12	.39	.24	79 Herculis
4469	-32 8 40.48	75.0	-2.321+ .567	+ .04	-.008 0	.12	.63	.25	Cluster
4470	+61 57 3.89	71.7	-2.781+ .095	+ .02	-.508+ 5	.07	.34	.15	26 Draconis *
4471	+48 38 36.78	50.6	-2.215+ .228	+ .01	+ .053 0	.11	.34	.23	82 Herculis $\gamma$
4472	+ 2 5 7.76	58.6	-2.279+ .440	+ .02	-.018 0	.11	.43	.25	
4473	+74 17 21.07	62.8	-2.109- .244	+ .07	+ .035- 3	.11	.30	.18	29 Draconis
4474	-38 58 42.20	75.9	-2.159+ .602	+ .04	-.026 0	.08	.31	.13	
4475	-12 49 19.00	73.4	-2.170+ .489	+ .02	-.056- 1	.06	.28	.12	
4476	-64 40 32.84	78.0	-2.158+ .853	+ .10	-.055 0	.09	.42	.16	
4477	-36 53 42.53	82.2	-2.131+ .591	+ .04	-.041 0	.11	.51	.18	166 G Scorpii
4478	-51 46 50.42	87.4	-2.279+ .691	+ .05	-.201 0	.12	.67	.19	
4479	+46 3 33.66	75.3	-2.042+ .246	+ .01	-.002 0	.03	.15	.06	
4480	+24 33 44.98	55.5	-1.961+ .358	+ .01	+ .049 0	.11	.40	.24	$\Sigma$ 2194. 8 <sup>M</sup> 5 16" 8°
4481	-21 38 4.78	61.9	-2.025+ .521	+ .02	-.054- 1	.07	.32	.17	58 Ophiuchi
4482	+15 59 54.05	77.3	-1.870+ .391	+ .01	+ .096 0	.08	.36	.14	$\beta$ 1251. 11 <sup>M</sup> 1" 3 67°
4483	+68 48 15.17	70.7	-1.635- .050	+ .03	+ .327 0	.04	.21	.09	
4484	+41 42 13.92	75.3	-1.902+ .274	+ .01	+ .012 0	.10	.34	.16	*
4485	-22 8 58.99	75.2	-1.905+ .526	+ .02	-.016 0	.12	.47	.20	1 G Sagittarii
4486	+24 36 51.40	64.0	-2.004+ .357	+ .01	-.115- 1	.08	.34	.18	83 Herculis
4487	+ 4 36 31.88	75.8	-1.724+ .430	+ .01	+ .152 0	.03	.17	.07	
4488	+24 22 15.82	65.8	-1.748+ .357	+ .01	+ .064- 1	.08	.31	.16	84 Herculis
4489	+ 2 37 20.97	67.4	-1.773+ .438	+ .01	+ .014 0	.10	.29	.16	} 61 Ophiuchi $\Sigma$ 2202. 21" 94°
4490	+ 2 37 19.77	87.8	-1.771+ .438	+ .01	+ .014 0	.13	.50	.17	
4491	-55 21 54.13	80.0	-1.699+ .726	+ .05	+ .022- 1	.14	.60	.23	76 G Aræ *
4492	-40 5 17.48	76.2	-1.694+ .610	+ .03	+ .002 0	.08	.36	.14	169 G Scorpii $\epsilon^1$
4493	-27 47 34.18	74.6	-1.659+ .549	+ .03	-.022 0	.06	.30	.12	L 7440. 4 <sup>M</sup> to 6 <sup>M</sup>
4494	+53 50 36.42	84.1	-1.617+ .183	+ .01	-.035 0	.09	.61	.18	
4495	-26 56 21.27	79.3	-1.575+ .545	+ .02	-.020 0	.13	.53	.21	4 G Sagittarii
4496	-53 34 44.27	86.4	-1.531+ .710	+ .04	+ .013 0	.15	.77	.24	77 G Aræ *
4497	+27 46 44.36	72.4	-2.276+ .338	+ .01	-.750- 4	.03	.18	.07	$\Sigma$ 2220. 9 <sup>M</sup> 5 32" 244°*
4498	-31 40 7.88	78.1	-1.538+ .567	+ .03	-.024 0	.10	.43	.17	170 G Scorpii
4499	+17 44 1.21	75.3	-1.537+ .385	+ .01	-.027 0	.11	.64	.25	$\Sigma$ 2215. 5 <sup>M</sup> 9-7 <sup>M</sup> 9 0" 7 296°
4500	+ 2 44 40.99	73.1	-1.575+ .437	+ .01	-.079 0	.04	.22	.09	

4496 h 4978. 10<sup>M</sup> 12" 276°.4497 Comp. is Clark 7, binary, < 2" 44 yrs.  $\pm$ .

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m	s				s	"	"	"	"
4501	L 7449	3.1	17	43	3.076	84.1	+4.0825+	.0051	-.024	+ .0054	0	.10	.48	.16
4502	L 7428	6.7		43	5.677	88.7	+4.8463+	.0084	-.059	-.0011	0	.20	.92	.28
4503	L 7447	5.0		43	11.480	91.7	+4.1934+	.0056	-.028	+ .0004	0	.12	.75	.18
4504	$\psi$ Draconis	5.0		43	42.952	73.2	-1.0761+	.0194	+ .021	+ .0032+	18	.03	.20	.08
4505	Br 2252	6.1		43	44.672	74.7	-1.0768+	.0196	+ .021	+ .0045+	19	.06	.28	.12
4506	Rümker 6035	6.0		44	7.323	87.2	+2.5726+	.0025	-.002	+ .0014	0	.10	.66	.18
4507	Groomb 2467	6.5		44	27.000	79.3	+1.6084+	.0032	-.003	-.0013	0	.12	.51	.20
4508	Br 2239	5.3		44	45.833	67.0	+2.4310+	.0025	-.001	-.0008	0	.10	.36	.18
4509	Pi 245	6.1		45	33.492	82.2	+3.9974+	.0044	-.022	-.0010	0	.14	.72	.24
4510	Pulk <sub>ss</sub> 2519	5.8		46	30.286	88.5	+2.3243+	.0024	-.001	+ .0021	0	.12	.62	.18
4511	Br 2243	5.2		46	40.999	69.5	+1.4308+	.0028	-.003	-.0054-	3	.07	.24	.12
4512	Pi 254 <i>m</i>	5.8		46	42.964	85.6	+4.0011+	.0042	-.022	-.0010	0	.14	.82	.25
4513	L 7478	6.2		47	14.736	89.4	+3.9980+	.0040	-.022	+ .0007	0	.12	.86	.21
4514	Br 2244	6.9		47	26.329	64.2	+1.5679+	.0032	-.003	-.0003	0	.10	.38	.20
4515	Pi 265	6.5		47	30.191	73.3	+3.3326+	.0029	-.007	+ .0039	0	.11	.56	.23
4516	Pi 271	6.0		48	21.978	70.7	+2.9217+	.0022	-.004	-.0075	0	.14	.68	.30
4517	Br 2241	6.4		48	44.702	72.5	+3.6899+	.0032	-.014	-.0011	0	.09	.34	.16
4518	Br 2245	6.2		48	49.480	73.1	+1.9510+	.0025	-.001	-.0011	0	.08	.45	.18
4519	L 7485	5.0		49	29.573	85.9	+4.3742+	.0044	-.035	-.0021	0	.18	1.17	.33
4520	L 7494	6.9		49	43.664	82.3	+3.9216+	.0034	-.020	+ .0001	0	.15	.98	.31
4521	Pi 277	6.6		50	2.043	84.8	+3.5276+	.0028	-.011	+ .0011	0	.07	.63	.17
4522	Br 2248	5.2		50	2.737	65.2	+1.9520+	.0025	-.001	+ .0011	0	.11	.45	.23
4523	L 7508	5.9		50	23.004	80.6	+3.7866+	.0031	-.017	+ .0028	0	.12	.81	.27
4524	Pi 281	6.0		50	33.864	64.2	+3.4484+	.0028	-.009	-.0017	0	.12	.54	.27
4525	L 7497	5.0		50	41.413	85.6	+4.2607+	.0039	-.032	-.0015	0	.15	.81	.25
4526	Br 2242	7.2		51	0.777	77.7	+3.6650+	.0028	-.014	+ .0002	0	.12	.52	.21
4527	Pi 291	5.8		51	12.652	81.1	+3.0567+	.0024	-.005	+ .0003	0	.11	.56	.19
4528	Br 2249	5.8		51	23.115	72.5	+2.4192+	.0023	-.001	+ .0001	0	.05	.34	.14
4529	Pi 293	5.6		51	30.889	70.6	+3.1661+	.0024	-.006	-.0012	0	.13	.56	.25
4530	Pulk <sub>ss</sub> 2527	6.0		51	38.722	88.5	+2.5197+	.0023	-.002	.0000	0	.12	.62	.18
4531	$\xi$ Draconis	3.8		51	47.966	74.9	+1.0364+	.0033	-.004	+ .0119-	2	.04	.18	.07
4532	L 7513	6.0		52	8.066	88.1	+4.0743+	.0031	-.025	+ .0010	0	.15	.84	.24
4533	L 7519	6.1		52	18.373	82.6	+3.8053+	.0028	-.017	+ .0002	0	.13	.92	.28
4534	L 7521	5.4		52	39.922	79.2	+3.8506+	.0028	-.018	-.0005	0	.09	.40	.16
4535	$\theta$ Herculis	3.8		52	49.404	78.8	+2.0564+	.0025	-.001	+ .0003	0	.04	.24	.09
4536	$\nu$ Ophiuchi	3.4		53	31.271	74.0	+3.3014+	.0025	-.008	-.0008+	1	.04	.24	.10
4537	Br 2246	4.9		53	41.220	66.2	+3.6619+	.0026	-.014	+ .0001	0	.07	.28	.14
4538	$\xi$ Herculis	4.0		53	52.722	73.2	+2.3305+	.0023	-.001	+ .0066	0	.06	.38	.15
4539	Br 2287	5.2		53	55.536	73.4	-2.6894+	.0080	+ .120	+ .0141-	31	.05	.27	.11
4540	Br 2247	7.1		54	3.680	72.0	+3.6769+	.0025	-.015	+ .0020	0	.11	.44	.20
4541	$\gamma$ Draconis	2.2		54	17.043	66.3	+1.3918+	.0031	-.002	-.0009	0	.03	.11	.05
4542	$\nu$ Herculis	4.6		54	40.572	80.0	+2.2949+	.0023	-.001	+ .0001	0	.11	.39	.16
4543	Groomb 2493	7.1		54	55.759	79.8	+1.8065+	.0026	-.002	-.0012	0	.11	.51	.19
4544	$\zeta$ Serpentis	4.6		55	11.980	70.8	+3.1680+	.0022	-.006	+ .0096	0	.11	.38	.18
4545	Br 2257	5.0		55	18.622	81.7	+2.9696+	.0022	-.004	-.0005	0	.11	.38	.15
4546	Br 2253	6.8		55	34.480	76.2	+3.4848+	.0022	-.010	.0000	0	.12	.42	.18
4547	Br 2262	4.8		55	36.308	61.7	+2.6695+	.0022	-.002	-.0005	0	.15	.57	.32
4548	Br 2259	4.0		55	38.193	80.3	+3.0039+	.0021	-.004	+ .0001	0	.04	.27	.09
4549	Pi 312	6.0		55	50.865	79.9	+3.6329+	.0022	-.014	-.0005	0	.11	.50	.19
4550	$\chi$ Octantis	5.4	17	56	4.68	78.0	+35.738	+ .369		-.096	+ 504	.05	.40	.14

4512 Sec. 6<sup>m</sup>2-6<sup>m</sup>8 0<sup>h</sup>4 285°.4522  $\beta$  130. 9<sup>m</sup> 1<sup>h</sup>7 123°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta\mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
4501	-37 0 41.04	79.8	-1.461+ .595	+ .03	+ .020+ 1	.10	.40	.15	172 G Scorpii G
4502	-53 5 56.35	81.9	-1.493+ .705	+ .04	-.016 0	.15	.61	.23	78 G Aræ v <sup>2</sup>
4503	-40 3 29.07	88.0	-1.483+ .610	+ .03	-.014 0	.10	.51	.15	173 G Scorpii $\epsilon^2$
4504	+72 11 52.61	74.1	-1.691- .156	+ .04	-.267 0	.04	.19	.08	31 Draconis $\psi^1$
4505	+72 12 22.22	69.9	-1.699- .155	+ .04	-.278+ 1	.06	.23	.11	2241. 31" 15°
4506	+20 35 54.87	87.9	-1.396+ .375	+ .01	-.008 0	.11	.65	.18	
4507	+47 38 47.36	75.6	-1.362+ .234	+ .01	-.003 0	.10	.41	.17	
4508	+25 39 21.31	64.4	-1.377+ .354	+ .01	-.045 0	.08	.35	.18	87 Herculis
4509	-34 46 19.50	73.2	-1.274+ .582	+ .02	-.012 0	.16	.71	.31	L (7464) Cluster
4510	+29 20 55.68	83.4	-1.140+ .339	+ .01	+ .040 0	.12	.48	.18	
4511	+50 48 16.32	65.6	-0.962+ .208	+ .01	+ .202- 1	.06	.20	.11	30 Draconis
4512	-34 52 15.15	75.9	-1.179+ .583	+ .02	-.018 0	.14	.69	.27	179 G Scorpii Cluster*
4513	-34 43 46.76	77.8	-1.116+ .582	+ .02	-.001 0	.13	.58	.23	Cluster
4514	+48 25 15.63	60.6	-1.090+ .229	+ .01	+ .008 0	.09	.33	.19	88 Herculis $\epsilon$
4515	-10 52 30.50	76.8	-1.135+ .486	+ .01	-.042+ 1	.11	.51	.20	
4516	+ 6 7 18.16	66.4	-0.944+ .425	+ .01	+ .073- 1	.14	.63	.31	
4517	-24 52 2.05	82.9	-0.992+ .537	+ .01	-.008 0	.10	.45	.16	63 Oph 8 G Sagittarii
4518	+40 0 13.67	65.7	-0.928+ .284	+ .01	+ .049 0	.09	.35	.18	
4519	-44 19 30.78	83.8	-0.936+ .637	+ .02	-.017 0	.13	.86	.26	181 G Scorpii
4520	-32 27 28.64	80.3	-0.898+ .572	+ .02	.000 0	.14	.97	.32	182 G Scorpii
4521	-18 47 4.49	83.7	-0.892+ .514	+ .01	-.021 0	.07	.55	.16	9 G Sagittarii
4522	+40 1 36.15	62.5	-0.823+ .285	+ .01	+ .047 0	.10	.37	.20	90 Herculis f*
4523	-28 2 57.67	75.7	-0.875+ .552	+ .01	-.034 0	.14	.92	.35	10 G Sagittarii
4524	-15 47 40.80	68.5	-0.881+ .502	+ .01	-.056 0	.11	.51	.24	h 2814. 9 <sup>m</sup> .5 21" 157°
4525	-41 42 7.42	78.8	-0.842+ .621	+ .01	-.028 0	.12	.56	.21	183 G Scorpii
4526	-23 55 29.71	78.5	-0.787+ .534	+ .01	-.001 0	.13	.55	.22	
4527	+ 0 41 7.52	82.6	-0.765+ .446	.00	+ .004 0	.10	.48	.17	
4528	+26 3 56.73	70.5	-0.751+ .353	.00	+ .002 0	.06	.32	.14	89 Herculis
4529	- 4 4 3.58	74.2	-0.767+ .461	+ .01	-.025 0	.11	.51	.21	
4530	+22 28 45.64	83.4	-0.733+ .367	.00	-.002 0	.10	.49	.16	
4531	+56 53 17.69	68.3	-0.642+ .153	+ .01	+ .075+ 2	.04	.16	.08	
4532	-36 50 52.19	83.4	-0.661+ .594	+ .01	+ .027 0	.12	.65	.21	12 G Sagittarii *
4533	-28 44 52.75	78.0	-0.679+ .555	+ .01	-.006 0	.15	1.06	.37	13 G Sagittarii
4534	-30 14 34.50	70.1	-0.666+ .561	+ .01	-.025 0	.10	.38	.18	h 5003. 5 <sup>m</sup> .4-7 <sup>m</sup> .1 5" 105°
4535	+37 15 48.88	73.9	-0.624+ .300	.00	+ .004 0	.05	.24	.10	
4536	- 9 45 41.07	78.6	-0.685+ .481	+ .01	-.118 0	.04	.26	.09	
4537	-23 48 25.25	70.3	-0.610+ .534	+ .01	-.058 0	.08	.26	.13	4 Sagittarii (15 G)
4538	+29 15 30.29	72.4	-0.562+ .341	.00	-.027+ 1	.06	.29	.12	
4539	+76 58 34.06	75.2	-0.292- .390	+ .04	+ .239+ 2	.05	.22	.09	35 Draconis
4540	-24 16 33.87	79.9	-0.550+ .536	+ .01	-.031 0	.12	.52	.20	5 Sagittarii
4541	+51 30 1.74	64.5	-0.526+ .203	.00	-.026 0	.03	.11	.06	
4542	+30 11 50.78	72.1	-0.462+ .335	.00	+ .004 0	.09	.30	.14	
4543	+43 25 32.06	80.9	-0.441+ .263	.00	+ .003 0	.11	.44	.17	
4544	- 3 41 1.94	69.7	-0.472+ .463	.00	-.052+ 1	.09	.34	.17	
4545	+ 4 22 27.10	74.4	-0.427+ .433	.00	-.017 0	.11	.31	.16	66 Ophiuchi
4546	-17 9 11.27	70.2	-0.399+ .508	.00	-.012 0	.11	.36	.18	6 Sagittarii
4547	+16 45 23.10	57.4	-0.394+ .389	.00	-.010 0	.12	.43	.26	93 Herculis
4548	+ 2 56 10.42	76.8	-0.396+ .438	.00	-.014 0	.04	.23	.09	67 Ophiuchi
4549	-22 46 39.26	79.8	-0.373+ .529	.00	-.010 0	.12	.47	.19	21 G Sagittarii *
4550	-87 39 51.49	78.6	-0.474+ 5.197		-.131- 14	.05	.35	.12	

4532 8<sup>m</sup>.5 pr. 3<sup>s</sup>.8, S 5".4549  $\beta$  283. 12<sup>m</sup> 8" 238°.



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup>	$\mu$ and 100 $\Delta \mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		M	h m s		s s	s	s	"	"	"
4551	Pi 323	7.1	17 56 39.330	77.0	+3.5779+.0020	-.012	-.0004 0	.11	.56	.21
4552	Br 2264	4.5	56 40.778	76.1	+3.0423+.0021	-.005	+0.0005 0	.11	.38	.16
4553	Br 2255	5.6	56 43.405	77.7	+3.6751+.0021	-.015	-.0001 0	.10	.42	.16
4554	Br 2285	5.8	56 55.155	66.6	-1.0422+.0059	+.021	+0.0019 0	.08	.33	.16
4555	Pi 353	6.0	57 4.809	69.3	+1.7116+.0027	-.002	-.0006+ 1	.12	.52	.24
4556	Br 2268 <sup>1</sup>	5.3	57 15.430	65.2	+2.5444+.0021	-.002	+0.0010 0	.10	.45	.22
4557	Br 2268 <sup>2</sup>	5.3	57 15.867	65.2	+2.5444+.0021	-.002	+0.0010 0	.10	.45	.22
4558	L 7473	5.8	57 16.304	90.4	+8.3886+.0119	-.553	-.0015+29	.15	.96	.24
4559	$\tau$ Ophiuchi <i>m</i>	5.0	57 38.185	70.6	+3.2658+.0020	-.007	+0.0014 0	.11	.48	.22
4560	Br 2260	6.1	57 44.538	78.2	+3.6775+.0019	-.015	.0000 0	.10	.48	.18
4561	L 7542	6.0	58 6.384	81.2	+4.0376+.0020	-.024	-.0023 0	.18	1.46	.46
4562	Br 2269	5.4	58 6.542	69.2	+2.5637+.0021	-.002	-.0001 0	.11	.50	.23
4563	Br 2270	6.5	58 19.304	59.3	+2.5067+.0021	-.001	-.0005 0	.13	.48	.27
4564	<i>W</i> Sagittarii	Var.	58 37.938	81.1	+3.8318+.0018	-.018	+0.0007 0	.09	.45	.16
4565	$\theta$ Arae	3.8	58 50.802	80.4	+4.6694+.0018	-.048	-.0012 0	.10	.45	.17
4566	$\pi$ Pavonis	4.4	58 57.171	78.0	+5.7755+.0028	-.126	+0.0024+ 6	.11	.58	.22
4567	Pi 342	7.1	59 2.544	79.7	+3.6794+.0018	-.015	+0.0007 0	.11	.51	.19
4568	$\gamma$ Sagittarii	2.8	59 23.036	82.1	+3.8526+.0020	-.018	-.0046+ 2	.05	.32	.10
4569	L 7550 <i>m</i>	5.2	59 35.983	81.8	+4.3370+.0017	-.034	-.0005+ 1	.14	.70	.24
4570	L 7507	6.0	17 59 52.157	92.2	+7.6220+.0038	-.387	-.0148+18	.16	1.16	.26
4571	$\gamma$ Ophiuchi <i>c.g.</i>	4.3	18 0 24.110	75.9	+3.0303+.0033	-.004	+0.0169+ 7			
4572	Groomb 2502	6.6	0 32.165	70.8	+1.5662+.0024	-.002	+0.0023 0	.10	.38	.18
4573	Pi 357	6.0	0 40.535	77.0	+3.2695+.0018	-.007	+0.0014 0	.18	.82	.33
4574	Paris 23339	6.0	0 55.751	97.5	+3.1931+.0018	-.006	+0.0095 0	.15	.88	.19
4575	$\iota$ Pavonis	5.5	1 8.410	84.1	+5.5765-.0014	-.109	-.0117- 7	.18	.80	.27
4576	Pi 356	6.5	1 11.467	72.7	+3.5965+.0015	-.013	-.0010 0	.11	.44	.20
4577	Pi 359	4.7	1 44.956	78.9	+3.7983+.0013	-.017	+0.0013 0	.08	.52	.18
4578	Br 2274	5.6	1 49.167	65.4	+2.5254+.0021	-.002	-.0013 0	.09	.39	.20
4579	Paris 23365	5.8	2 0.411	95.4	+3.4774+.0014	-.010	-.0078 0	.14	.84	.18
4580	Br 2273	4.8	2 31.405	63.7	+2.8673+.0018	-.003	.0000 0	.11	.40	.22
4581	Br 2275	3.7	2 36.513	77.3	+2.8433+.0018	-.003	-.0042 0	.03	.22	.08
4582	Br 2278	5.2	3 13.764	67.2	+2.2764+.0020	-.001	-.0073- 1	.09	.34	.17
4583	L 7588	6.8	3 26.711	89.4	+3.9305+.0011	-.021	-.0008+ 1	.11	1.10	.25
4584	$\alpha$ Herculis	3.8	3 38.494	78.8	+2.3395+.0021	-.001	+0.0002 0	.04	.24	.08
4585	L 7590	5.7	3 38.858	82.9	+3.8666+.0009	-.019	-.0006 0	.13	.72	.23
4586	Br 2279	6.2	3 47.612	65.8	+2.4180+.0020	-.001	-.0002 0	.12	.51	.26
4587	Br 2280	6.2	3 47.633	74.2	+2.4165+.0020	-.001	-.0016 0	.13	.70	.28
4588	$\epsilon$ Telescopii	4.7	3 48.413	80.3	+4.4531+.0002	-.039	-.0016 0	.10	.50	.18
4589	Groomb 2517	5.2	4 28.038	62.5	+1.8079+.0024	-.002	+0.0013+ 1	.12	.69	.35
4590	Br 2282	4.4	4 28.892	67.6	+2.5647+.0020	-.002	-.0001 0	.14	.50	.25
4591	$\delta$ Ursae Min	4.3	4 32.80	68.8	-19.486-.144		+0.021- 89	.03	.12	.05
4592	Br 2283	5.2	4 34.120	67.8	+2.5850+.0020	-.002	-.0002 0	.13	.57	.27
4593	Pulk <sub>ss</sub> 2555	5.7	4 34.159	82.7	+2.0803+.0026	-.001	-.0072+ 2	.11	.98	.29
4594	Br 2277 <i>m</i>	5.9	4 35.537	70.9	+2.9820+.0017	-.004	+0.0025 0	.10	.30	.15
4595	Pulk <sub>ss</sub> 2554	6.0	4 53.792	90.8	+3.0010+.0019	-.004	+0.0012+ 1	.13	.62	.18
4596	Br 2276	5.3	5 37.219	78.8	+3.6612+.0009	-.014	+0.0018 0	.11	.51	.19
4597	Lal 33376	5.8	5 40.525	96.5	+2.9971+.0016	-.004	+0.0019 0	.14	.98	.19
4598	L 7605	7.5	6 2.738	93.8	+4.1661+.0003	-.028	+0.0049+ 2	.14	1.17	.24
4599	Cord 24763	5.8	6 7.818	91.4	+4.2436-.0002	-.031	-.0049 0	.18	1.94	.40
4600	L 7577	5.8	18 6 10.865	82.5	+5.6940-.0037	-.119	-.0095+ 1	.13	.87	.27

4552  $\beta$  1125. 10<sup>M</sup> 1" 18°.4564 4<sup>M</sup>8 to 5<sup>M</sup>8.4569 h 5014. 6<sup>M</sup>0-6<sup>M</sup>0 1'6 242°, binary.4559  $\Sigma$  2262. 5<sup>M</sup>5-6<sup>M</sup>2 2" 256°, binary, 200 yrs.  $\pm$ .4570 Innes. 9<sup>M</sup> 2'6 232°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
4551	-20 44 12.02	75.0	-0.291+ .521	.00	+ .002 0	.11	.48	.20	68 Ophiuchi * 7 Sagittarii 34 Draconis ( $\psi^2$ )
4552	+1 18 26.11	69.5	-0.315+ .444	.00	- .025 0	.09	.32	.16	
4553	-24 16 53.79	78.4	-0.303+ .536	.00	- .016 0	.10	.44	.17	
4554	+72 0 52.89	68.2	-0.273- .152	+ .02	- .003 0	.09	.28	.15	
4555	+45 30 20.81	63.4	-0.299+ .250	.00	- .044 0	.11	.42	.22	95 Hercules See Appendix 66 G Apodis *
4556	+21 35 44.83	53.9	-0.213+ .371	.00	+ .027 0	.12	.43	.27	
4557	+21 35 45.94	53.9	-0.212+ .371	.00	+ .027 0	.12	.43	.27	
4558	-75 53 36.85	91.0	-0.504+ 1.223	+ .01	- .266 0	.11	.92	.21	
4559	-8 10 48.82	65.7	-0.247+ .476	.00	- .040 0	.08	.34	.17	9 Sagittarii 25 G Sagittarii 96 Hercules 97 Hercules $\gamma^1$ Sagittarii *
4560	-24 21 45.92	76.9	-0.203+ .536	.00	- .006 0	.10	.42	.17	
4561	-35 54 15.21	74.4	-0.221+ .588	.00	- .055 0	.16	1.24	.47	
4562	+20 49 59.20	64.1	-0.183+ .374	.00	- .018 0	.10	.37	.20	
4563	+22 55 20.86	60.2	-0.148+ .365	.00	- .001 0	.12	.49	.27	27 G Sagittarii Also $\gamma^2$ 1 G Coronæ Aust * 67 G Apodis *
4564	-29 35 4.32	75.3	-0.132+ .559	.00	- .012 0	.09	.44	.18	
4565	-50 5 52.60	79.3	-0.129+ .680	- .01	- .028 0	.08	.39	.15	
4566	-63 40 20.50	80.2	-0.283+ .842	.00	- .191 0	.10	.56	.20	
4567	-24 24 13.44	80.1	-0.100+ .536	.00	- .016 0	.11	.54	.20	See Appendix $\Sigma$ 2277. $8^M 5 27'' 121^\circ$
4568	-30 25 31.06	80.7	-0.248+ .561	.00	- .194-1	.05	.32	.11	
4569	-43 25 47.94	80.1	-0.142+ .632	- .01	- .107 0	.12	.65	.23	
4570	-73 40 49.25	92.0	-0.233+ 1.109	- .02	- .221-2	.13	1.00	.22	
4571	+2 31 21.58	74.7	-1.067+ .444	.00	- 1.102+2				31 G Sagittarii 98 Hercules 71 Ophiuchi 72 Ophiuchi * 99 Hercules $\delta$ * 36 G Sagittarii
4572	+48 27 33.70	64.8	+0.053+ .229	.00	+ .006 0	.09	.31	.16	
4573	-8 19 54.37	78.0	+0.044+ .477	.00	- .015 0	.15	.63	.25	
4574	-4 45 32.88	90.0	+0.045+ .467	.00	- .036+1	.13	.60	.18	
4575	-62 1 20.56	82.6	+0.339+ .811	- .01	+ .239-2	.14	.69	.24	37 G Sagittarii * 100 Hercules $\Sigma$ 2280. $14'' 2^\circ$
4576	-21 27 14.61	77.1	+0.107+ .524	.00	+ .003 0	.11	.46	.19	
4577	-28 28 5.61	78.6	+0.120+ .554	.00	- .033 0	.09	.44	.17	
4578	+22 12 34.03	66.4	+0.145+ .368	.00	- .014 0	.09	.37	.19	
4579	-17 10 4.20	93.4	+0.224+ .506	.00	+ .049-1	.15	1.00	.22	102 Hercules 101 Hercules 73 Ophiuchi * $\beta$ 637. $12^M 7'' 193^\circ$
4580	+8 43 15.55	59.1	+0.246+ .418	.00	+ .025 0	.12	.42	.24	
4581	+9 32 58.07	77.0	+0.310+ .414	.00	+ .082-1	.04	.22	.08	
4582	+30 32 50.64	63.8	+0.345+ .331	.00	+ .063-1	.08	.31	.16	
4583	-32 43 54.76	86.2	+0.161+ .573	- .01	- .140 0	.12	1.01	.27	40 G Sagittarii
4584	+28 44 54.74	74.9	+0.320+ .341	.00	+ .002 0	.04	.26	.10	
4585	-30 44 40.69	78.4	+0.280+ .563	.00	- .039 0	.13	.60	.23	
4586	+26 4 56.12	64.3	+0.360+ .352	.00	+ .028 0	.10	.34	.18	
4587	+26 5 10.19	68.6	+0.352+ .352	.00	+ .020 0	.12	.47	.23	102 Hercules
4588	-45 58 17.89	77.2	+0.296+ .649	- .02	- .037 0	.09	.38	.15	
4589	+43 26 55.97	56.9	+0.327+ .264	.00	- .064 0	.15	.60	.35	
4590	+20 47 54.47	68.1	+0.375+ .374	.00	- .017 0	.12	.45	.22	
4591	+86 36 47.61	74.0	+0.446- 2.837		+ .048+3	.02	.11	.05	73 Ophiuchi * $\beta$ 637. $12^M 7'' 193^\circ$
4592	+20 1 45.80	68.8	+0.373+ .377	.00	- .027 0	.10	.48	.22	
4593	+36 23 27.59	81.0	+0.206+ .302	.00	- .194-1	.11	.75	.24	
4594	+3 58 34.47	66.3	+0.390+ .435	.00	- .012 0	.08	.27	.14	
4595	+3 6 25.32	93.3	+0.224+ .437	.00	- .204 0	.14	.64	.18	3 G Coronæ Aust 21 G Pavonis
4596	-23 43 17.68	78.2	+0.464+ .534	- .01	- .028 0	.11	.47	.19	
4597	+3 18 16.10	95.4	+0.498+ .437	.00	+ .002 0	.13	.94	.19	
4598	-39 10 51.85	92.9	+0.372+ .608	- .02	- .157+1	.15	1.14	.25	
4599	-41 21 34.35	89.5	+0.522+ .618	- .02	- .014-1	.15	1.54	.35	
4600	-63 4 52.36	81.0	+0.509+ .828	- .03	- .032-1	.12	.69	.23	

4581 O $\Sigma$  342?4585  $\beta$  245.  $5^M 9-8^M 0 4'' 352^\circ$ .4582 Clark 15.  $10^M$ , binary,  $< 2''$ , 64 yrs.  $\pm$ .4594  $\Sigma$  2281.  $6^M 1-7^M 6 < 1''$ , binary.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			$\mu$	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
4601	Pulk <sub>ss</sub> 2558	6.0	18	6	30.185	88.7	+2.0865+.0021	-.001	+0.0007 0	.12	.63	.18
4602	Br 2318	6.3		7	31.614	62.2	-4.4735-.0223	+.367	+0.0202-26	.06	.27	.14
4603	Br 2321	6.0		7	37.683	60.2	-4.4788-.0223	+.368	+0.0173-24	.06	.22	.13
4604	$\mu$ Sagittarii	4.0		7	46.989	67.4	+3.5876+.0007	-.013	+0.0003 0	.03	.18	.08
4605	Br 2417	6.0		7	47.52	67.6	-22.296-.291		+0.068-.11	.07	.26	.13
4606	Br 2291	5.1		8	8.384	71.8	+2.2571+.0020	-.001	-.0006 0	.07	.30	.14
4607	Br 2286	5.8		8	15.416	79.6	+3.6038+.0006	-.013	-.0011 0	.13	.48	.19
4608	Groomb 2528	7.6		8	15.662	82.0	+1.0763+.0016	-.003	+0.0023-1	.12	.50	.18
4609	Groomb 2527	6.2		8	28.661	67.8	+1.2301+.0009	-.003	+0.0134-5	.08	.36	.17
4610	L 7621	5.5		8	35.524	86.1	+4.3782-.0012	-.035	+0.0055 0	.18	1.06	.31
4611	L 7608	5.6		8	42.043	87.4	+5.0517-.0032	-.070	-.0047 0	.15	.82	.24
4612	Br 2288	5.5		9	14.966	63.8	+3.5786+.0005	-.012	+0.0001 0	.09	.32	.17
4613	Br 2289	6.2		9	15.929	73.0	+3.5694+.0005	-.012	.0000 0	.12	.42	.20
4614	Groomb 2530	6.2		9	44.605	65.7	+1.9987+.0021	-.001	-.0022 0	.14	.68	.33
4615	$\phi$ Octantis	5.7	10	9	155	75.8	+8.0828-.0225	-.480	-.0024-2	.13	.69	.27
4616	Br 2290	7.4	10	37	880	64.1	+3.5740+.0004	-.012	+0.0005 0	.14	.54	.28
4617	$\eta$ Sagittarii	3.0	10	51	659	84.2	+4.0592-.0006	-.024	-.0115+2	.08	.42	.13
4618	Br 2293	6.3	11	38	591	71.3	+3.1440+.0014	-.006	+0.0009+2	.12	.81	.34
4619	Pi 24	4.7	11	47	628	77.9	+3.7553-.0002	-.016	+0.0006 0	.10	.48	.18
4620	Groomb 2533	5.6	12	32	129	84.2	+1.8650+.0020	-.001	-.0005 0	.05	.38	.11
4621	Dpt 2074 <i>m</i>	6.8	12	50	846	65.2	+3.5224+.0002	-.011	-.0005 0	.15	.82	.40
4622	Groomb 2539	6.8	12	55	993	70.4	+1.0523+.0010	-.003	+0.0001-1	.16	.57	.28
4623	Br 2309	5.1	13	19	223	70.5	+0.3454-.0007	-.003	+0.0532 0	.05	.20	.09
4624	Groomb 2538	6.4	13	56	455	72.0	+1.9020+.0018	-.001	-.0149-1	.10	.50	.21
4625	$\xi$ Pavonis	4.3	14	0	648	85.4	+5.5322-.0088	-.104	-.0010 0	.14	.72	.22
4626	Pulk <sub>ss</sub> 2573	5.7	14	19	369	69.4	+2.8992+.0013	-.004	-.0042 0	.16	1.02	.45
4627	Br 2296	5.7	14	23	280	67.2	+3.4534+.0003	-.009	+0.0018 0	.10	.51	.24
4628	$\delta$ Sagittarii	2.7	14	35	549	77.5	+3.8412-.0009	-.018	+0.0028 0	.06	.27	.10
4629	Br 2300	5.7	15	3	783	73.3	+2.4685+.0018	-.001	+0.0012 0	.11	.34	.17
4630	L 7681	6.8	15	21	998	87.3	+3.6936-.0006	-.014	+0.0006 0	.14	1.12	.29
4631	L 7671	5.3	15	24	915	88.6	+4.1375-.0021	-.026	-.0032 0	.15	.80	.23
4632	$\gamma$ Sagittarii	Var.	15	30	020	95.5	+3.5295-.0001	-.011	+0.0005 0	.14	1.05	.21
4633	L 7682	6.4	15	40	480	84.6	+3.7964-.0010	-.017	+0.0009 0	.13	1.04	.29
4634	Br 2316	6.3	15	52	006	78.0	-0.3479-.0035	+0.004	+0.0029+3	.07	.30	.12
4635	Br 2299	4.9	15	52	482	66.8	+2.9937+.0011	-.004	-.0010 0	.10	.39	.19
4636	Br 2301	5.2	16	4	045	62.8	+2.5366+.0018	-.002	+0.0007 0	.12	.46	.25
4637	L 7677	5.7	16	6	516	88.6	+4.0675-.0020	-.024	+0.0009 0	.12	.70	.20
4638	$\eta$ Serpentis	3.3	16	8	117	77.9	+3.1029+.0017	-.006	-.0376+4	.03	.16	.06
4639	$\kappa$ Lyræ	4.5	16	21	410	69.8	+2.1013+.0019	-.001	-.0018 0	.11	.45	.21
4640	Br 2304	6.8	16	31	681	87.4	+2.3345+.0018	-.001	-.0008 0	.13	.44	.16
4641	L 7684	5.8	16	43	752	89.7	+4.0530-.0021	-.024	+0.0020 0	.13	.72	.20
4642	L 7680	5.5	17	1	742	77.1	+4.3675-.0036	-.035	+0.0009 0	.15	.75	.29
4643	Br 2307	5.7	17	5	949	81.4	+2.3092+.0018	-.001	+0.0005 0	.11	.40	.16
4644	Br 2306	5.2	17	6	975	80.2	+2.3394+.0018	-.001	+0.0004 0	.12	.34	.16
4645	$\epsilon$ Sagittarii	1.7	17	32	095	75.1	+3.9823-.0018	-.022	-.0035+1	.06	.27	.11
4646	Br 2322	7.0	17	33	883	63.1	-0.3522-.0040	+0.004	-.0064+4	.11	.44	.23
4647	Groomb 2549	6.5	17	35	524	58.8	+1.4054+.0015	-.002	-.0035+1	.09	.46	.26
4648	Paris 23820	5.9	17	36	441	99.2	+3.3553+.0002	-.008	-.0018 0	.15	1.10	.19
4649	Br 2308	5.9	17	58	477	67.6	+2.5015+.0016	-.001	+0.0011-1	.11	.52	.25
4650	Pulk <sub>ss</sub> 2584	4.9	18	18	10.878	92.6	+3.2859+.0002	-.007	+0.0029 0	.13	.72	.18

4602-3  $\Sigma$  2308. 20" 234°.4604 h 2822. 10<sup>m</sup> 17" 258°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
4601	+36 26 45.16	85.6	+0.571+ .304	.00	+0.002 0	.12	.52	.18	} 40 Draconis 41 Draconis *
4602	+79 59 16.60	59.2	+0.780- .649	-.04	+0.122+ 3	.08	.33	.18	
4603	+79 59 28.12	59.9	+0.781- .650	-.04	+0.114+ 2	.08	.32	.18	
4604	-21 5 6.33	68.8	+0.676+ .522	-.01	-.005 0	.04	.20	.09	Also $\mu^1$ *
4605	+86 59 38.66	67.5	+0.688- 3.240		+0.006+ 10	.08	.31	.15	24 Ursæ Min
4606	+31 22 48.73	66.9	+0.728+ .328	.00	+0.016 0	.07	.27	.13	104 Herculis A
4607	-21 44 23.77	78.8	+0.695+ .524	-.01	-.027 0	.12	.45	.18	14 Sagittarii
4608	+56 14 37.85	72.8	+0.762+ .157	.00	+0.040 0	.10	.34	.16	
4609	+54 15 23.65	67.4	+0.988+ .181	.00	+0.247+ 2	.07	.35	.17	
4610	-44 14 11.50	81.9	+0.770+ .638	-.03	+0.019+ 1	.15	.81	.27	4 G Coronæ Aust
4611	-56 3 16.02	85.2	+0.735+ .735	-.04	-.026- 1	.12	.64	.20	6 G Telescopii
4612	-20 45 29.02	63.2	+0.804+ .521	-.01	-.005 0	.09	.30	.17	15 Sagittarii
4613	-20 25 4.21	69.4	+0.800+ .519	-.01	-.010 0	.12	.37	.19	16 Sagittarii *
4614	+38 44 43.21	64.3	+0.851+ .290	.00	-.001 0	.12	.54	.28	
4615	-75 5 9.22	80.2	+0.912+ 1.177	-.12	+0.024 0	.13	.69	.24	
4616	-20 34 38.39	72.9	+0.911+ .520	-.02	-.019 0	.14	.51	.24	17 Sagittarii
4617	-36 47 30.22	78.2	+0.783+ .589	-.02	-.167- 2	.08	.34	.13	$\beta$ 760. $10^m$ 4" $102^\circ$
4618	-3 2 4.39	71.4	+0.744+ .457	-.01	-.274 0	.11	.61	.26	
4619	-27 4 43.60	75.5	+1.037+ .546	-.02	+0.006 0	.10	.47	.19	51 G Sagittarii
4620	+42 7 30.09	79.6	+1.089+ .271	-.01	-.007 0	.06	.36	.12	
4621	-18 39 28.81	63.3	+1.125+ .512	-.02	+0.002 0	.15	.75	.38	Sh $8^m$ $17''$ $52^\circ$ *
4622	+56 33 14.56	58.2	+1.165+ .153	.00	+0.034 0	.13	.45	.27	
4623	+64 21 48.08	64.1	+1.193+ .057	.00	+0.029+ 8	.05	.22	.11	36 Draconis
4624	+40 53 49.31	63.7	+1.285+ .274	-.01	+0.066- 2	.08	.37	.19	
4625	-61 32 20.93	85.2	+1.233+ .804	-.07	+0.008 0	.11	.64	.19	Sellors $10^m$ 3" $151^\circ$
4626	+7 13 8.50	65.9	+1.258+ .421	-.01	+0.006- 1	.16	1.00	.48	
4627	-15 52 21.47	71.4	+1.219+ .502	-.02	-.039 0	.11	.65	.27	
4628	-29 52 14.32	76.0	+1.240+ .558	-.03	-.036 0	.06	.32	.13	
4629	+24 24 15.53	65.4	+1.313+ .359	-.01	-.004 0	.10	.29	.16	105 Herculis
4630	-24 57 36.57	82.7	+1.335+ .537	-.02	-.008 0	.13	.98	.30	56 G Sagittarii
4631	-38 42 7.12	84.2	+1.310+ .601	-.03	-.037 0	.13	.58	.20	7 G Coronæ Aust
4632	-18 54 16.67	91.0	+1.344+ .513	-.02	-.011 0	.15	.80	.21	Also 57 G. $5^m$ 8 to $6^m$ 6
4633	-28 28 32.25	81.6	+1.369+ .552	-.02	-.001 0	.13	1.05	.33	58 G Sagittarii
4634	+68 43 10.81	76.4	+1.327- .051	-.01	-.060 0	.07	.25	.11	37 Draconis
4635	+3 19 55.38	65.6	+1.385+ .434	-.01	-.003 0	.09	.36	.18	74 Ophiuchi
4636	+21 55 7.44	60.3	+1.343+ .368	-.01	-.061 0	.12	.49	.27	106 Herculis
4637	-36 42 58.22	85.0	+1.387+ .591	-.03	-.021 0	.11	.54	.17	59 G Sagittarii
4638	-2 55 29.86	73.3	+0.711+ .445	-.02	-.699- 5	.03	.17	.07	
4639	+36 1 9.33	63.3	+1.461+ .305	-.01	+0.031 0	.09	.33	.18	
4640	+28 56 20.10	84.5	+1.441+ .339	-.01	-.003 0	.12	.42	.16	
4641	-36 17 13.00	85.3	+1.454+ .589	-.03	-.008 0	.13	.57	.19	60 G Sagittarii
4642	-44 9 35.01	74.6	+1.475+ .634	-.04	-.013 0	.12	.63	.25	8 G Coronæ Aust
4643	+29 48 40.64	75.2	+1.551+ .335	-.01	+0.057 0	.10	.34	.16	108 Herculis
4644	+28 49 20.30	76.4	+1.542+ .340	-.01	+0.046 0	.12	.34	.17	107 Herculis $\epsilon$
4645	-34 25 54.81	72.3	+1.400+ .578	-.03	-.132 0	.07	.29	.13	
4646	+68 42 7.68	56.7	+1.445- .053	-.01	-.090- 1	.10	.34	.21	38 Draconis
4647	+51 18 13.01	64.5	+1.485+ .203	.00	-.052 0	.09	.40	.20	
4648	-12 3 49.55	93.7	+1.508+ .487	-.02	-.031 0	.14	.86	.20	
4649	+23 14 3.33	66.4	+1.646+ .363	-.01	+0.075 0	.10	.46	.22	
4650	-8 59 10.77	87.9	+1.634+ .477	-.02	+0.045 0	.12	.58	.18	3 G Scuti & Edin <sub>40</sub> 2515

4613  $\beta$  286.  $12^m$  6"  $217^\circ$ .4621 Princ. Star,  $\beta$  639.  $7^m$  3- $7^m$  8 < 0".5, rapid binary.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
4651	Pulk <sub>ss</sub> 2587	5.4	18	18	23.894	82.0	+2.6497+.0015	-.002	+0.0045 0	.10	.69	.22
4652	L 7698	5.7	18	35.760	87.7	+3.8554-.0016	-.019	-.0112+ 1	.13	.80	.22	
4653	Groomb 2555	5.3	18	59.225	61.8	+1.5342+.0013	-.002	-.0022- 1	.12	.60	.31	
4654	L 7690	5.8	19	18.225	89.6	+4.5629-.0053	-.043	+0.0026 0	.20	1.77	.41	
4655	Br 2303	4.9	19	23.688	73.8	+3.5734-.0007	-.012	+0.0006 0	.07	.38	.15	
4656	Br 2311	4.0	19	26.192	80.1	+2.5556+.0021	-.002	+0.0138+ 2	.04	.21	.07	
4657	$\alpha$ Telescopii	3.6	19	33.544	80.0	+4.4514-.0047	-.038	-.0010+ 1	.11	.57	.21	
4658	L 7642	6.0	20	4.926	88.1	+7.7250-.0359	-.397	+0.0014+10	.14	.75	.22	
4659	Br 2331	7.4	20	39.847	70.1	-0.9116-.0108	+0.016	-.0132- 2	.10	.42	.20	
4660	Pulk <sub>ss</sub> 2591	6.0	20	50.133	88.0	+2.8856+.0011	-.003	-.0003 0	.12	.58	.17	
4661	$\mu$ Lyræ	5.1	20	56.145	74.9	+1.9752+.0018	-.001	-.0018 0	.08	.28	.13	
4662	$\xi$ Telescopii	4.2	21	7.752	79.4	+4.6247-.0056	-.045	+0.0147+ 4	.15	.93	.32	
4663	L 7696	6.0	21	19.756	90.6	+5.1710-.0104	-.076	+0.0031+ 1	.16	1.06	.26	
4664	L 7712	5.9	21	32.099	89.7	+4.1521-.0036	-.027	+0.0002 0	.18	1.04	.28	
4665	$\lambda$ Sagittarii	2.7	21	47.976	76.2	+3.7028-.0012	-.014	-.0035+ 2	.04	.21	.08	
4666	$\nu$ Pavonis	4.7	22	2.104	75.5	+5.6096-.0149	-.109	-.0010+ 1	.15	.58	.25	
4667	Br 2312	Var.	22	5.513	66.7	+3.0684+.0006	-.005	-.0008 0	.09	.28	.15	
4668	Grw <sub>40</sub> 1603	6.4	22	6.395	65.9	+3.5008-.0008	-.011	-.0002 0	.13	.70	.34	
4669	Pulk <sub>ss</sub> 2594	5.9	22	7.341	94.0	+2.3122+.0018	-.001	+0.0008 0	.14	.66	.17	
4670	$\phi$ Draconis <i>m</i>	4.2	22	11.533	76.3	-0.8549-.0114	+0.014	-.0008- 2	.04	.24	.09	
4671	Br 2328	5.1	22	27.014	83.7	+0.8768-.0008	-.004	-.0043- 1	.05	.28	.09	
4672	$\chi$ Draconis	3.6	22	51.627	70.1	-1.0779-.0086	+0.024	+0.1166+29	.03	.16	.08	
4673	Paris 24011	5.9	23	5.746	91.8	+2.9296+.0009	-.004	+0.0001 0	.12	.78	.18	
4674	Br 2313	4.7	23	29.882	77.7	+3.4196-.0006	-.009	+0.0002 0	.06	.34	.13	
4675	Br 2314	6.4	24	4.612	68.7	+3.4207-.0007	-.009	+0.0010 0	.11	.51	.24	
4676	Pi 82	6.0	24	19.207	77.8	+3.5279-.0010	-.011	+0.0033+ 1	.12	.60	.23	
4677	$\delta^1$ Telescopii	5.2	24	20.975	75.6	+4.4462-.0062	-.038	-.0014 0	.15	.69	.28	
4678	Br 2317	5.6	24	28.711	65.0	+3.1214+.0004	-.005	+0.0015 0	.13	.34	.20	
4679	L 7746	5.6	24	31.259	79.3	+3.9367-.0030	-.020	-.0004 0	.10	.48	.18	
4680	$\delta^2$ Telescopii	5.3	24	38.211	77.1	+4.4395-.0063	-.038	-.0005 0	.15	.60	.25	
4681	L 7737	5.8	24	42.855	93.2	+4.3373-.0056	-.034	+0.0007 0	.20	1.17	.28	
4682	L 7748	5.4	25	23.468	95.6	+4.1811-.0046	-.028	+0.0032+ 1	.15	1.38	.25	
4683	Pi 100	6.0	25	26.965	81.0	+2.4868+.0016	-.001	+0.0003 0	.08	.44	.15	
4684	Pi 88	7.4	25	27.031	74.2	+3.5186-.0010	-.011	-.0104+ 1	.10	.57	.23	
4685	Pi 92	5.2	25	34.733	72.5	+3.5153-.0012	-.011	-.0007 0	.11	.50	.22	
4686	Br 2336	5.1	25	41.857	72.4	+0.1741-.0046	-.002	+0.0161+ 1	.07	.32	.14	
4687	Dpt 2100	6.0	25	52.926	96.9	+3.3269-.0004	-.007	-.0011 0	.15	.75	.18	
4688	Groomb 2590	6.7	26	19.622	77.4	+0.8265-.0015	-.004	+0.0065- 1	.08	.46	.17	
4689	$\theta$ Coronæ Aust	4.6	26	21.753	84.1	+4.2875-.0057	-.032	+0.0035 0	.12	.68	.22	
4690	Pi 90	6.5	26	29.322	90.6	+4.1396-.0047	-.026	+0.0002 0	.14	.90	.22	
4691	Pi 89	6.2	26	29.354	90.2	+4.1383-.0047	-.026	-.0013 0	.14	.84	.22	
4692	Pulk <sub>ss</sub> 2607	5.8	26	37.561	89.0	+2.6666+.0014	-.002	-.0035 0	.12	.62	.17	
4693	Br 2325	6.1	26	47.174	62.3	+3.0980+.0003	-.005	+0.0008 0	.12	.34	.21	
4694	Br 2323	5.9	27	0.649	75.7	+3.4255-.0010	-.009	-.0009 0	.09	.48	.19	
4695	Br 2319	7.1	27	7.596	75.1	+3.6679-.0021	-.014	-.0004 0	.12	.44	.19	
4696	Pi 102	7.3	27	18.610	67.2	+3.5145-.0014	-.011	-.0003 0	.15	.57	.29	
4697	L 7761	5.5	27	24.173	75.4	+3.9373-.0037	-.020	+0.0003 0	.12	.57	.23	
4698	Br 2324	5.8	27	46.949	77.6	+3.6657-.0022	-.014	-.0003 0	.09	.42	.16	
4699	Br 2327	6.0	27	56.238	75.4	+3.4278-.0010	-.009	+0.0018 0	.09	.45	.18	
4700	Br 2326	7.0	18	28 25.708	78.6	+3.6707-.0023	-.014	-.0004 0	.13	.52	.21	

4655 Jacob.  $8^m 5^s 2'' 290^\circ$ .4667  $5^m 0^s$  to  $5^m 7^s$ .  $\Sigma$  2316.  $7^m 8^s 4'' 317^\circ$ .4671  $\Sigma$  2323.  $8^m 0^s 3'' 6 358^\circ$ ;  $7^m 8^s 9'' 21^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
4651	+17 46 33.57	81.2	+1.615+ .385	-.01	+ .007+ 1	.10 .59 .20	
4652	-30 48 27.28	79.8	+1.544+ .558	-.03	-.081- 2	.14 .61 .23	
4653	+49 4 15.49	60.2	+1.713+ .223	.00	+ .054 0	.08 .46 .24	
4654	-48 10 18.33	87.8	+1.663+ .663	-.06	-.023 0	.17 1.42 .36	12 G Telescopii
4655	-20 35 42.87	72.6	+1.673+ .518	-.03	-.021 0	.07 .34 .15	21 Sagittarii *
4656	+21 43 26.44	78.4	+1.437+ .372	-.01	-.261+ 2	.04 .21 .08	109 Herculis
4657	-46 1 24.52	76.8	+1.657+ .646	-.05	-.052 0	.09 .44 .17	
4658	-74 1 38.04	87.7	+1.634+ 1.121	-.20	-.120 0	.12 .67 .19	30 G Pavonis
4659	+71 28 6.20	70.0	+1.836- .135	-.02	+ .031- 2	.09 .38 .18	
4660	+7 58 32.94	83.0	+1.819+ .418	-.02	-.001 0	.11 .47 .17	
4661	+39 27 8.99	75.9	+1.819+ .286	-.01	-.010 0	.07 .28 .12	
4662	-49 7 29.60	76.6	+1.589+ .673	-.06	-.257+ 2	.12 .69 .26	
4663	-57 35 4.65	86.6	+1.825+ .750	-.08	-.038 0	.14 .94 .26	32 G Pavonis
4664	-39 3 18.20	86.3	+1.854+ .602	-.04	-.027 0	.15 .75 .23	9 G Coronæ Aust
4665	-25 28 37.25	73.4	+1.713+ .536	-.03	-.191 0	.04 .21 .09	
4666	-62 20 29.95	76.2	+1.891+ .813	-.10	-.033 0	.12 .53 .22	
4667	+0 8 11.28	67.5	+1.923+ .444	-.02	-.006 0	.07 .24 .12	59 Serpentis d *
4668	-17 51 40.23	63.6	+1.925+ .507	-.03	-.006 0	.14 .75 .38	
4669	+29 46 16.12	90.4	+1.899+ .335	-.01	-.033 0	.14 .55 .18	
4670	+71 17 4.56	76.9	+1.970- .125	-.03	+ .032 0	.04 .22 .08	0 $\Sigma$ 353. 4 <sup>M</sup> 4-6 <sup>M</sup> 5 0 <sup>o</sup> 4 53 <sup>o</sup>
4671	+58 44 33.53	69.4	+2.016+ .126	.00	+ .055- 1	.05 .21 .10	39 Draconis b *
4672	+72 41 22.27	73.6	+1.627- .141	-.03	-.369+ 16	.03 .16 .07	
4673	+6 7 58.03	92.0	+2.008+ .424	-.02	-.009 0	.11 .75 .17	
4674	-14 37 47.02	72.3	+2.044+ .495	-.03	-.008 0	.06 .32 .14	$\gamma$ Scuti
4675	-14 38 52.05	69.0	+2.119+ .495	-.03	+ .017 0	.10 .45 .21	
4676	-18 47 32.48	79.3	+2.022+ .511	-.03	-.101 0	.11 .57 .21	74 G Sagittarii
4677	-45 58 55.62	76.1	+2.089+ .644	-.06	-.037 0	.12 .65 .25	L 7729
4678	-2 3 0.30	68.4	+2.106+ .452	-.02	-.031 0	.10 .36 .18	60 Serpentis c
4679	-33 3 19.28	77.0	+2.089+ .570	-.04	-.052 0	.10 .43 .17	75 G Sagittarii *
4680	-45 49 33.06	77.7	+2.133+ .642	-.06	-.018 0	.12 .58 .22	L 7734
4681	-43 34 32.74	91.4	+2.156+ .628	-.06	-.002 0	.16 1.01 .25	12 G Coronæ Aust
4682	-39 46 22.83	93.1	+2.157+ .605	-.05	-.059 0	.16 1.15 .25	13 G Coronæ Aust
4683	+23 47 58.20	81.5	+2.217+ .359	-.01	-.005 0	.06 .40 .13	
4684	-18 58 19.97	76.6	+2.033+ .507	-.03	-.189- 2	.12 .60 .23	
4685	-18 28 16.70	71.6	+2.199+ .508	-.03	-.034 0	.10 .45 .20	74 G Sagittarii
4686	+65 30 5.59	68.2	+2.216+ .026	-.01	-.027+ 2	.06 .26 .13	42 Draconis
4687	-10 51 53.70	87.8	+2.233+ .480	-.03	-.026 0	.13 .49 .17	$\Sigma$ 2325. 9 <sup>M</sup> 12 <sup>o</sup> 257 <sup>o</sup>
4688	+59 28 56.72	72.7	+2.333+ .119	-.01	+ .035+ 1	.08 .36 .16	
4689	-42 23 4.35	80.8	+2.274+ .620	-.05	-.027 0	.10 .51 .18	
4690	-38 47 31.08	85.0	+2.284+ .598	-.05	-.028 0	.14 .61 .21	16 G Coronæ Aust $\kappa^1$ *
4691	-38 47 52.93	83.7	+2.277+ .598	-.05	-.035 0	.13 .58 .20	17 G Coronæ Aust $\kappa^2$
4692	+16 51 33.19	85.4	+2.301+ .384	-.02	-.023 0	.12 .51 .17	
4693	-1 4 26.43	62.2	+2.335+ .447	-.03	-.003 0	.10 .35 .20	61 Serpentis e
4694	-14 56 16.85	77.7	+2.358+ .495	-.04	+ .001 0	.09 .47 .18	
4695	-24 10 56.76	79.2	+2.363+ .530	-.04	-.004 0	.12 .55 .21	
4696	-18 26 29.62	72.7	+2.366+ .508	-.04	-.017 0	.13 .54 .24	
4697	-33 5 25.94	72.2	+2.383+ .569	-.05	-.008 0	.11 .58 .25	77 G Sagittarii
4698	-24 6 24.95	79.9	+2.406+ .530	-.04	-.018 0	.09 .36 .14	24 Sagittarii
4699	-14 55 40.70	77.8	+2.425+ .495	-.04	-.013 0	.09 .49 .18	
4700	-24 17 55.05	79.6	+2.480+ .530	-.04	.000 0	.13 .51 .20	25 Sagittarii

4679 Howe. 11<sup>M</sup> 3" 200<sup>o</sup>.4690-1 Dunlop. 22" 358<sup>o</sup>.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup>	<sup>m</sup>	<sup>s</sup>		<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
4701	Pi 116	6.2	18	28	36.490	78.0	+2.4952+.0015	-.001	+0.0006	0	.08	.42	.16
4702	Pulk <sub>ss</sub> 2612	5.6	29	0.542		78.6	+2.2920+.0017	-.001	-.0001	0	.11	.98	.33
4703	Br 2329	5.4	29	28.920		80.8	+3.3348-.0008	-.007	+0.0035	0	.08	.42	.14
4704	L 7778	7.1	29	36.643		89.2	+3.8319-.0034	-.018	+0.0012	0	.14	1.08	.26
4705	Br 2330	4.0	29	45.912		76.9	+3.2645-.0001	-.007	-.0015+	2	.04	.22	.09
4706	Pulk <sub>ss</sub> 2614	6.0	30	48.501		91.7	+2.6390+.0013	-.002	+0.0001	0	.14	.63	.18
4707	Br 2340	5.0	30	51.054		68.8	+1.0349-.0010	-.004	-.0005	0	.10	.50	.23
4708	Pi 132 <i>m</i>	5.9	31	20.704		79.0	+2.4975+.0015	-.001	+0.0015	0	.08	.42	.15
4709	$\zeta$ Pavonis	4.1	31	21.174		76.4	+7.0302-.0429	-.272	-.0022+	10	.07	.42	.16
4710	L 7780	6.1	31	40.203		89.4	+4.5436-.0095	-.042	+0.0013	0	.13	.69	.19
4711	Groomb 2612	5.5	31	40.617		76.6	+1.3610+.0002	-.002	-.0003	0	.09	.44	.17
4712	Pulk <sub>ss</sub> 2616	5.6	31	41.618		90.1	+2.8611+.0009	-.003	-.0006+	1	.12	.63	.18
4713	Pulk <sub>ss</sub> 2617	5.6	31	47.258		88.5	+2.9166+.0008	-.003	-.0028+	1	.12	.60	.18
4714	Br 2332	6.0	31	55.159		74.5	+3.5921-.0022	-.012	-.0011+	1	.11	.48	.20
4715	Br 2339	7.3	32	0.685		57.7	+2.0066+.0016	-.001	-.0012	0	.10	.39	.23
4716	Pi 128	7.2	32	3.087		67.9	+3.4841-.0018	-.010	-.0009	0	.15	.57	.28
4717	L 7790	5.4	32	24.051		91.4	+4.3129-.0075	-.032	-.0051+	1	.20	1.11	.28
4718	Br 2333	5.9	32	25.783		82.4	+3.6495-.0027	-.013	-.0006	0	.07	.39	.13
4719	Pulk <sub>ss</sub> 2619	5.9	32	27.637		78.5	+3.0809-.0000	-.004	-.0005	0	.12	.93	.32
4720	Br 2335	6.1	32	55.639		78.8	+3.5781-.0022	-.012	-.0055+	1	.10	.48	.18
4721	Dpt 2120	5.6	32	57.225		87.9	+2.1988+.0016	-.001	-.0019	0	.11	.57	.16
4722	$\alpha$ Lyræ	0.0	33	33.169		66.7	+2.0309+.0010	-.001	+0.0174-	3	.02	.11	.05
4723	Groomb 2630	8.0	34	29.228		83.3	+0.4028-.0040	-.003	-.0055+	8	.12	.64	.21
4724	Groomb 2655	6.0	34	34.900		79.2	-2.8732-.0554	+1.120	-.0008+	1	.05	.36	.12
4725	L 7785	4.9	35	37.834		73.3	+5.8985-.0284	-.132	-.0008+	5	.13	.57	.25
4726	Br 2338	6.4	35	45.682		77.6	+3.6605-.0032	-.013	+0.0024	0	.11	.42	.18
4727	Pi 173	6.2	35	54.408		83.0	+0.1907-.0084	-.003	+0.0016-	3	.06	.45	.14
4728	Pi 165 <i>m</i>	7.1	36	34.329		79.2	+1.3693+.0001	-.002	+0.0013	0	.13	.54	.21
4729	Groomb 2634	7.9	36	34.333		74.9	+1.1783-.0012	-.003	+0.0011-	1	.10	.39	.17
4730	Pi 174	5.9	36	39.428		77.8	+0.5458-.0052	-.004	+0.0010-	1	.12	.57	.22
4731	Br 2342	4.8	36	47.904		79.1	+3.2856-.0012	-.007	+0.0009	0	.05	.33	.11
4732	$\lambda$ Coronæ Aust	5.2	36	55.379		89.0	+4.1190-.0069	-.025	+0.0004+	1	.10	.64	.17
4733	Pi 170	6.0	37	34.965		58.4	+1.3802-.0003	-.002	+0.0017	0	.09	.48	.26
4734	L 7830	4.9	37	37.504		84.0	+4.0212-.0062	-.022	.0000	0	.14	.81	.25
4735	L 7829	5.5	38	0.446		90.8	+4.1713-.0077	-.027	+0.0013	0	.16	.88	.24
4736	Br 2343	5.1	38	4.489		85.0	+3.2677-.0012	-.007	+0.0013	0	.06	.39	.12
4737	Pi 155	6.0	38	40.748		80.5	+3.6897-.0038	-.014	-.0001	0	.11	.56	.20
4738	$\theta$ Pavonis	6.0	38	48.120		74.6	+5.9158-.0319	-.133	-.0051+	3	.11	.64	.25
4739	$\phi$ Sagittarii	3.2	39	24.557		75.9	+3.7496-.0044	-.015	+0.0036	0	.05	.22	.09
4740	Br 2346	5.1	39	47.099		68.6	+3.0276-.0001	-.004	+0.0003	0	.09	.27	.15
4741	Groomb 2646	7.4	39	59.011		65.6	+1.7619+.0010	-.002	-.0023	0	.16	.64	.33
4742	Pulk <sub>ss</sub> 2632	5.8	40	6.215		89.7	+2.2528+.0017	-.001	-.0026+	1	.12	.64	.18
4743	Br 2345	5.7	40	18.778		72.2	+3.6192-.0036	-.012	+0.0019	0	.11	.38	.18
4744	Dpt 2142 <i>m</i>	6.0	40	33.460		91.8	+2.9485+.0001	-.003	+0.0004	0	.12	.58	.16
4745	Br 2360	5.1	40	41.744		65.9	+1.1621-.0015	-.003	-.0007	0	.07	.27	.14
4746	$\mu$ Coronæ Aust	5.3	40	45.182		87.4	+4.1985-.0086	-.028	+0.0022	0	.15	.90	.25
4747	$\epsilon^1$ Lyræ <i>s.p.</i>	5.0	41	1.566		68.0	+1.9865+.0012	-.001	+0.0008-	1	.05	.24	.11
4748	$\epsilon^1$ Lyræ <i>n.f.</i>	6.7	41	1.635		91.9	+1.9858+.0012	-.001	+0.0001-	1	.10	.63	.15
4749	$\epsilon^2$ Lyræ <i>m</i>	4.6	41	3.996		66.6	+1.9894+.0012	-.001	+0.0014-	1	.05	.24	.12
4750	Pulk <sub>ss</sub> 2634	6.0	18	41	12.397	94.0	+3.3095-.0016	-.007	-.0002	0	.13	.81	.18

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
4701	+23 32 31.56	75.9	+2.504+ .360	-.01	+ .008 0	.07	.40	.15	
4702	+30 28 43.83	75.1	+2.524+ .330	-.01	-.007 0	.10	.73	.27	
4703	-11 3 19.21	82.8	+2.564+ .481	-.03	-.008 0	.07	.40	.13	
4704	-20 46 42.41	84.7	+2.557+ .553	-.05	-.026 0	.14	.97	.28	80 G Sagittarii
4705	- 8 18 50.83	76.2	+2.279+ .471	-.03	-.317 0	.05	.24	.09	1 Aquilæ ( $\alpha$ Scuti)
4706	+18 7 23.80	85.0	+2.692+ .380	-.01	+ .005 0	.13	.49	.18	
4707	+56 58 8.28	59.8	+2.680+ .148	-.01	-.010 0	.09	.29	.17	45 Draconis $d$
4708	+23 31 28.09	75.5	+2.732+ .360	-.02	-.001 0	.07	.36	.14	OZ 359. 6 <sup>M</sup> 5-6 <sup>M</sup> 8 0''4 342°
4709	-71 30 49.09	79.1	+2.579+ 1.014	-.24	-.155 0	.07	.49	.16	
4710	-47 59 45.54	88.7	+2.785+ .655	-.09	+ .024 0	.11	.63	.17	22 G Telescopii
4711	+52 16 26.32	71.3	+2.769+ .195	-.01	+ .007 0	.07	.30	.14	$\Sigma$ 2348. 8 <sup>M</sup> 25'' 272°
4712	+ 9 2 36.69	85.4	+2.636+ .412	-.03	-.128 0	.12	.49	.17	
4713	+ 6 35 34.47	86.0	+2.632+ .420	-.03	-.140 0	.11	.54	.17	
4714	-21 28 49.87	76.7	+2.701+ .517	-.04	-.082 0	.11	.48	.19	83 G Sagittarii
4715	+38 48 47.31	53.1	+2.777+ .288	-.01	-.014 0	.11	.52	.32	
4716	-17 18 57.26	64.0	+2.797+ .502	-.04	+ .003 0	.11	.44	.23	
4717	-43 16 18.36	90.3	+2.776+ .621	-.07	-.049- 1	.16	.99	.25	18 G Coronæ Aust
4718	-23 35 24.97	80.8	+2.798+ .525	-.04	-.029 0	.07	.34	.12	84 G Sagittarii
4719	- 0 23 37.47	81.4	+2.805+ .443	-.03	-.025 0	.11	.73	.24	Edin <sub>40</sub> 2562
4720	-21 8 4.60	81.5	+2.717+ .514	-.04	-.154- 1	.10	.52	.18	86 G Sagittarii
4721	+33 23 5.12	81.8	+2.871+ .316	-.01	-.002 0	.10	.45	.16	$\Sigma$ 2349. 11 <sup>M</sup> 7'' 205°
4722	+38 41 25.44	63.5	+3.203+ .294	-.01	+ .279+ 2	.02	.11	.06	Vega
4723	+63 37 8.58	75.8	+2.754+ .056	-.01	-.251- 1	.10	.43	.18	$\Sigma$ 2365. 10 <sup>M</sup> 20'' 24°
4724	+77 28 8.70	80.3	+3.009- .416	-.15	-.005 0	.05	.38	.12	
4725	-64 57 53.79	70.0	+2.960+ .848	-.18	-.144 0	.10	.46	.21	39 G Pavonis
4726	-23 55 35.56	72.8	+3.087+ .526	-.05	-.028 0	.10	.38	.17	26 Sagittarii
4727	+65 23 56.77	80.0	+3.210+ .026	-.02	+ .082 0	.06	.38	.13	Groomb 2640
4728	+52 15 10.95	72.1	+3.187+ .196	-.01	+ .002 0	.12	.42	.20	$\Sigma$ 2368. 7 <sup>M</sup> 8-8 <sup>M</sup> 0 2'' 327°
4729	+55 9 9.52	75.1	+3.244+ .168	-.01	+ .059 0	.10	.35	.16	Br 2348
4730	+62 26 7.02	71.1	+3.224+ .077	-.01	+ .031 0	.12	.47	.22	
4731	- 9 8 53.75	75.6	+3.201+ .471	-.04	-.004 0	.05	.26	.10	2 Aquilæ
4732	-38 25 10.22	83.3	+3.157+ .591	-.07	-.059 0	.10	.45	.16	
4733	+52 6 6.39	60.0	+3.300+ .197	-.01	+ .027 0	.11	.49	.27	
4734	-35 44 25.35	81.4	+3.223+ .577	-.07	-.053 0	.14	.80	.27	91 G Sagittarii
4735	-39 47 10.70	86.4	+3.298+ .599	-.08	-.011 0	.14	.61	.20	20 G Coronæ Aust
4736	- 8 22 26.83	82.2	+3.325+ .469	-.04	+ .010 0	.07	.36	.12	3 Aquilæ (5 H Scuti $\epsilon$ )
4737	-25 6 40.55	80.2	+3.341+ .529	-.06	-.026 0	.11	.55	.20	94 G Sagittarii
4738	-65 10 51.96	74.0	+3.297+ .848	-.19	-.081- 1	.10	.49	.20	
4739	-27 5 36.98	74.6	+3.427+ .538	-.06	-.003 0	.05	.25	.10	
4740	+ 1 57 29.21	69.2	+3.441+ .433	-.04	-.022 0	.09	.31	.16	4 Aquilæ
4741	+44 49 31.51	54.8	+3.455+ .251	-.01	-.025 0	.13	.51	.31	$\Sigma$ 2380. 8 <sup>M</sup> 5 26'' 9°
4742	+31 49 42.70	86.3	+3.348+ .322	-.02	-.142 0	.12	.52	.17	
4743	-22 29 48.68	68.1	+3.509+ .518	-.05	+ .001 0	.10	.33	.17	28 Sagittarii
4744	+ 5 23 45.49	79.9	+3.515+ .422	-.03	-.014 0	.11	.36	.15	$\Sigma$ 2375. 6 <sup>M</sup> 6-7 <sup>M</sup> 0 2'' 114°
4745	+55 26 17.12	55.3	+3.563+ .165	-.01	+ .022 0	.06	.21	.13	46 Draconis $c$
4746	-40 30 45.54	85.3	+3.518+ .601	-.08	-.028 0	.14	.75	.23	
4747	+39 33 54.75	62.9	+3.621+ .284	-.01	+ .051 0	.05	.21	.11	} $\Sigma$ 2382. 3'' 13° $\Sigma$ 2383. 5 <sup>M</sup> 2-5 <sup>M</sup> 5 2'' 129°
4748	+39 33 58.33	85.5	+3.627+ .283	-.01	+ .057 0	.09	.42	.14	
4749	+39 30 28.55	61.2	+3.635+ .284	-.01	+ .062 0	.06	.24	.13	
4750	-10 13 52.48	91.3	+3.589+ .473	-.04	+ .004 0	.12	.73	.18	

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			$\alpha$ Ep.	100 $\mu$	$\alpha$ 10							
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>			<sup>s</sup> <sup>s</sup>	<sup>s</sup> <sup>s</sup>	<sup>s</sup> <sup>s</sup>	<sup>s</sup> <sup>s</sup>	<sup>s</sup> <sup>s</sup>	<sup>s</sup> <sup>s</sup>	
4751	Br 2349	6.0	18 41 18.749	68.0	+3.0973-.0005	-.004	-.0005 0	.11	.38	.19		
4752	$\xi^1$ Lyræ	4.4	41 19.722	64.4	+2.0657+.0014	-.001	+.0022 0	.09	.34	.18		
4753	Br 2351	4.3	41 21.474	75.8	+2.5806+.0016	-.001	-.0015+ 2	.04	.22	.09		
4754	$\xi^2$ Lyræ	6.1	41 21.558	80.7	+2.0655+.0014	-.001	+.0016 0	.11	.38	.15		
4755	L 7852	5.7	41 37.515	87.6	+4.3350-.0104	-.032	+.0026 0	.13	.90	.24		
4756	Br 2350	4.5	41 52.119	80.5	+3.1833-.0010	-.006	-.0007 0	.06	.26	.10		
4757	Br 2347	7.4	41 56.382	76.0	+3.5616-.0033	-.011	+.0010 0	.12	.66	.26		
4758	Pulk <sub>ss</sub> 2642	5.0	42 2.683	83.1	+2.4165+.0013	-.001	+.0009 0	.10	.51	.17		
4759	R Scuti	Var.	42 8.614	80.6	+3.2018-.0011	-.006	-.0043 0	.10	.48	.17		
4760	L 7859	5.9	42 23.439	85.6	+4.3219-.0104	-.032	+.0010 0	.16	.72	.24		
4761	Br 2354	4.3	42 36.272	74.0	+2.6482+.0008	-.001	+.0044- 1	.08	.27	.13		
4762	$\lambda$ Pavonis	4.3	42 57.141	76.0	+5.5713-.0294	-.102	-.0023 0	.11	.51	.21		
4763	Br 2370	6.4	43 7.565	77.2	+0.7093-.0050	-.004	-.0002 0	.10	.40	.16		
4764	Br 2352	5.4	43 44.096	68.8	+3.5617-.0036	-.011	+.0004 0	.08	.33	.16		
4765	Groomb 2671	5.9	44 29.022	82.2	+1.3414-.0008	-.003	+.0016 0	.08	.54	.17		
4766	$\kappa$ Telescopii	5.5	44 43.637	87.9	+4.7679-.0167	-.051	+.0040+ 2	.18	.92	.27		
4767	Br 2353	6.5	44 49.830	83.4	+3.6067-.0040	-.012	-.0027 0	.08	.34	.12		
4768	L 7878	5.7	45 1.157	83.2	+4.4653-.0130	-.037	+.0014 0	.14	1.05	.32		
4769	L 7881	6.7	45 7.955	90.4	+4.2437-.0103	-.030	-.0015 0	.12	.75	.19		
4770	Groomb 2677	6.2	45 37.875	71.6	+1.5815+.0001	-.002	-.0021- 1	.09	.48	.21		
4771	Br 2361	7.3	45 50.785	72.1	+3.1464-.0010	-.005	-.0032 0	.11	.52	.23		
4772	Br 2367	6.0	46 2.607	80.4	+2.2318+.0014	-.001	+.0001 0	.11	.36	.15		
4773	Br 2362	6.3	46 7.077	68.0	+3.1510-.0011	-.005	+.0001 0	.15	.45	.24		
4774	Br 2359	7.0	46 7.941	70.6	+3.6048-.0041	-.012	+.0024 0	.12	.45	.22		
4775	Br 2368	5.4	46 8.838	65.1	+2.2383+.0014	-.001	-.0019 0	.13	.52	.27		
4776	$\beta^1$ Lyræ	Var.	46 23.275	68.3	+2.2144+.0014	-.001	+.0003 0	.03	.14	.06		
4777	$\beta^2$ Lyræ	7.6	46 25.112	67.0	+2.2133+.0014	-.001	+.0012 0	.07	.45	.21		
4778	$\kappa$ Pavonis	Var.	46 38.421	82.8	+6.2091-.0462	-.158	-.0012 0	.13	.68	.22		
4779	Br 2371	5.5	48 0.139	68.2	+2.5615+.0011	-.001	-.0010 0	.14	.45	.23		
4780	Br 2363	6.0	48 1.530	77.9	+3.5869-.0042	-.012	+.0001 0	.11	.45	.18		
4781	$\nu^1$ Sagittarii	4.9	48 7.947	71.4	+3.6241-.0046	-.012	+.0005 0	.08	.34	.16		
4782	Groomb 2719	5.5	48 16.380	70.8	-1.4743-.0428	+.022	+.0021- 7	.07	.34	.15		
4783	Paris 24897	5.2	48 59.200	93.9	+3.4386-.0032	-.009	-.0015 0	.13	.70	.17		
4784	$\sigma$ Sagittarii	2.0	49 3.913	72.8	+3.7218-.0055	-.014	+.0006 0	.04	.20	.08		
4785	$\nu^2$ Sagittarii	5.0	49 4.444	71.5	+3.6284-.0047	-.012	+.0072 0	.09	.34	.16		
4786	L 7909	5.6	49 9.449	90.4	+4.2813-.0118	-.030	-.0018 0	.13	1.17	.26		
4787	Groomb 2699	5.7	49 20.607	73.8	+1.3458-.0022	-.003	-.0036- 5	.10	.45	.19		
4788	Br 2404	5.5	49 36.164	69.8	-1.9122-.0552	+.039	-.0034- 8	.05	.34	.15		
4789	$\omega$ Pavonis	5.2	49 43.233	83.1	+5.3457-.0300	-.084	-.0177 0	.18	.78	.28		
4790	$\phi$ Draconis	4.8	49 43.563	74.4	+0.8880-.0046	-.005	+.0108 0	.04	.18	.08		
4791	Cape <sub>ss</sub> 3710	5.7	49 45.426	87.1	+3.4571-.0032	-.009	-.0018+ 1	.12	.56	.17		
4792	L 7916	5.6	49 53.675	88.4	+4.0745-.0094	-.023	+.0019 0	.14	.69	.20		
4793	Pi 225	6.1	49 57.403	78.3	+3.6339-.0049	-.012	-.0004 0	.10	.46	.18		
4794	$\delta^1$ Lyræ	5.7	50 13.962	67.2	+2.0942+.0013	-.001	-.0006 0	.10	.46	.22		
4795	Groomb 2701	7.1	50 21.667	80.1	+1.8673+.0009	-.001	+.0018 0	.10	.52	.19		
4796	$\lambda$ Telescopii	5.0	50 27.838	90.3	+4.8094-.0202	-.053	+.0020 0	.15	.88	.23		
4797	Br 2378	4.7	50 31.564	66.5	+2.5315+.0011	-.001	-.0002 0	.11	.50	.24		
4798	Br 2374	5.8	50 34.892	77.7	+2.9250-.0001	-.003	+.0010+ 1	.11	.34	.16		
4799	Groomb 2709	5.1	50 44.937	66.6	+1.4861-.0004	-.002	+.0001 0	.13	.52	.26		
4800	$\delta^2$ Lyræ	4.5	18 51 0.427	61.6	+2.0975+.0013	-.001	-.0007 0	.13	.38	.22		

4751  $\Sigma$  2379. 8<sup>m</sup> 13" 121°; 11<sup>m</sup> 28" 146°.4752-4  $\Sigma$  App. 44" 150°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu' \delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
4751	- 1 4 1.93	65.7	+ 3.564+.442	-.04	-.030 0	.09 .31 .16	5 Aquilæ *
4752	+37 30 1.26	63.0	+ 3.613+.295	-.01	+.017 0	.08 .31 .16	See $\xi^2$ foll *
4753	+20 27 1.43	75.8	+ 3.254+.368	-.02	-.344 0	.04 .23 .09	110 Herculis
4754	+37 29 23.37	75.8	+ 3.609+.295	-.01	+.011 0	.09 .35 .15	See $\xi^1$ prec *
4755	-43 47 19.63	85.1	+ 3.605+.620	-.09	-.016 0	.11 .69 .20	25 G Coronæ Aust $\eta^1$
4756	- 4 51 17.98	79.8	+ 3.619+.455	-.04	-.023 0	.07 .30 .11	6 Aquilæ
4757	-20 22 58.48	76.2	+ 3.633+.509	-.05	-.015 0	.12 .58 .23	
4758	+26 33 17.99	86.8	+ 3.683+.345	-.02	+.026 0	.12 .55 .18	
4759	- 5 48 45.30	77.9	+ 3.633+.457	-.04	-.033- 1	.09 .45 .17	4 <sup>M</sup> 7 to 9 <sup>M</sup> 0
4760	-43 32 39.75	84.3	+ 3.664+.618	-.09	-.023 0	.14 .64 .22	26 Coronæ Aust $\eta^2$
4761	+18 4 11.92	77.0	+ 3.811+.378	-.02	+.106+ 1	.08 .31 .13	111 Herculis
4762	-62 18 6.98	73.5	+ 3.724+.796	-.18	-.011 0	.09 .42 .18	
4763	+60 56 30.99	75.3	+ 3.760+.100	-.01	+.010 0	.09 .34 .15	$\Sigma$ 2403. 9 <sup>M</sup> 1 <sup>M</sup> .7 262°
4764	-20 26 18.62	73.1	+ 3.827+.508	-.05	+.025 0	.10 .38 .17	29 Sagittarii
4765	+52 52 40.23	79.0	+ 3.851+.190	-.01	-.016 0	.08 .39 .15	
4766	-52 13 19.21	84.5	+ 3.785+.681	-.13	-.103+ 1	.14 .71 .23	
4767	-22 16 35.83	84.9	+ 3.872+.514	-.06	-.024 0	.08 .38 .12	30 Sagittarii
4768	-46 42 45.96	82.0	+ 3.888+.637	-.11	-.025 0	.11 .87 .27	34 G Telescopii
4769	-41 49 32.58	88.7	+ 3.899+.605	-.09	-.023 0	.11 .63 .17	28 G Coronæ Aust
4770	+48 39 10.14	67.1	+ 4.006+.224	-.01	+.041 0	.08 .36 .17	
4771	- 3 22 36.00	71.6	+ 3.915+.447	-.04	-.069 0	.10 .44 .20	7 Aquilæ
4772	+32 41 50.09	73.3	+ 3.986+.317	-.01	-.014 0	.09 .31 .15	8 Lyræ $\nu^1$
4773	- 3 26 6.10	67.6	+ 3.970+.448	-.04	-.037 0	.12 .40 .21	8 Aquilæ
4774	-22 2 19.72	76.4	+ 3.963+.513	-.06	-.045 0	.12 .40 .18	31 Sagittarii
4775	+32 26 8.25	64.7	+ 4.001+.318	-.02	-.008 0	.11 .49 .25	9 Lyræ $\nu^2$
4776	+33 14 46.96	64.8	+ 4.023+.315	-.01	-.007 0	.02 .13 .06	} 3 <sup>M</sup> 4 to 4 <sup>M</sup> 5 } $\Sigma$ App. 46'' 149°
4777	+33 14 7.56	63.2	+ 4.020+.314	-.01	-.013 0	.07 .37 .18	
4778	-67 21 31.25	82.4	+ 4.067+.885	-.26	+.015 0	.11 .60 .20	
4779	+21 18 16.03	66.8	+ 4.155+.364	-.02	-.013 0	.11 .41 .21	112 Herculis
4780	-21 28 56.03	78.3	+ 4.158+.510	-.06	-.012 0	.12 .45 .19	33 Sagittarii
4781	-22 52 4.80	71.3	+ 4.162+.515	-.07	-.017 0	.08 .26 .13	Br 2364
4782	+73 58 11.33	74.2	+ 4.272+.212	-.11	+.081 0	.07 .35 .14	
4783	-15 43 40.20	87.2	+ 4.244+.488	-.06	-.008 0	.14 .63 .20	Edin <sub>40</sub> 2608
4784	-26 25 15.62	74.2	+ 4.193+.528	-.07	-.066 0	.04 .22 .09	
4785	-22 47 46.51	70.1	+ 4.228+.516	-.07	-.032+ 1	.09 .31 .16	Br 2366
4786	-42 50 13.23	90.5	+ 4.224+.608	-.11	-.043 0	.12 1.20 .26	30 G Coronæ Aust
4787	+52 50 45.54	70.4	+ 4.569+.189	-.01	+.286 0	.09 .38 .17	
4788	+75 18 58.33	70.6	+ 4.382+.275	-.14	+.077 0	.06 .33 .14	50 Draconis
4789	-60 19 54.39	84.4	+ 4.359+.757	-.19	+.044- 2	.15 .71 .24	
4790	+59 15 57.66	63.9	+ 4.339+.126	-.01	+.023+ 2	.04 .16 .08	$\Sigma$ 2420. 8 <sup>M</sup> 32'' 334°
4791	-16 29 54.15	83.9	+ 4.133+.490	-.06	-.185 0	.13 .63 .21	114 G Sagittarii
4792	-37 28 14.81	84.8	+ 4.313+.579	-.09	-.017 0	.13 .59 .20	31 G Coronæ Aust
4793	-23 18 3.81	79.6	+ 4.320+.515	-.07	-.015 0	.11 .50 .19	116 G Sagittarii
4794	+36 50 47.39	64.5	+ 4.350+.296	-.01	-.009 0	.11 .44 .23	Br 2380
4795	+42 46 38.67	77.4	+ 4.350+.264	-.02	-.020 0	.10 .43 .17	
4796	-53 4 10.15	87.2	+ 4.393+.683	-.15	+.014 0	.13 .64 .20	
4797	+22 31 5.71	64.4	+ 4.388+.358	-.02	+.004 0	.08 .38 .19	113 Herculis
4798	+ 6 29 23.95	74.5	+ 4.299+.414	-.04	-.090 0	.11 .34 .16	62 Serpentis
4799	+50 35 1.10	64.6	+ 4.370+.210	-.02	-.033 0	.14 .50 .27	
4800	+36 46 17.25	55.4	+ 4.431+.296	-.02	+.006 0	.11 .40 .24	

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
4801	Br 2381	6.3	18	51	12.633	75.0	+2.1979+.0013	-.001	-.0007 0	.10	.58	.23
4802	$\theta^1$ Serpentis	4.8		51	14.897	71.1	+2.9826-.0005	-.003	+.0031 0	.04	.22	.10
4803	$\theta^2$ Serpentis	5.0		51	16.329	64.8	+2.9825-.0005	-.003	+.0029 0	.10	.32	.17
4804	Br 2372	5.2		51	23.913	67.0	+3.5658-.0045	-.010	-.0012 0	.11	.32	.17
4805	Groomb 2711	5.8		51	40.019	85.4	+1.9208+.0010	-.001	-.0001 0	.12	.45	.16
4806	L 7936	7.6		51	41.400	82.0	+3.8537-.0074	-.017	.0000 0	.16	1.10	.35
4807	Pulk <sub>ss</sub> 2669	6.0		51	41.403	80.5	+2.6452+.0010	-.001	-.0044+ 1	.13	.86	.28
4808	Br 2375	5.1		51	42.428	65.7	+3.2129-.0018	-.005	+.0042 0	.10	.36	.19
4809	$\xi$ Sagittarii	3.5		51	45.882	68.5	+3.5808-.0046	-.011	+.0023 0	.07	.27	.13
4810	$\epsilon$ Coronæ Aust	5.1		51	58.718	89.0	+4.0512-.0096	-.023	-.0109+ 1	.10	.60	.16
4811	Pi 254	6.0		52	8.874	60.9	+1.5827+.0003	-.002	-.0058+ 2	.14	.56	.31
4812	L 7943	6.8		52	12.631	84.2	+3.6780-.0056	-.013	-.0017 0	.14	1.06	.31
4813	Br 2379	5.7		52	14.858	61.4	+3.0174-.0007	-.004	-.0003 0	.10	.45	.24
4814	R Lyræ	Var.		52	17.534	79.3	+1.8259+.0006	-.001	+.0026- 1	.04	.26	.09
4815	Br 2388	5.5		53	16.676	79.1	+2.2488+.0016	-.001	+.0137+ 2	.11	.42	.17
4816	Pulk <sub>ss</sub> 2675	5.5		53	46.699	90.6	+3.3718-.0031	-.007	-.0001 0	.12	.68	.18
4817	Pulk <sub>ss</sub> 2677	5.7		53	47.759	86.0	+2.6691+.0007	-.001	-.0002 0	.11	.56	.17
4818	Br 2385	6.2		54	11.482	75.7	+2.7534+.0005	-.002	-.0005 0	.10	.33	.15
4819	L 7956	6.8		54	16.594	83.4	+3.6830-.0060	-.013	+.0026 0	.15	.92	.28
4820	Br 2387	5.4		54	29.496	78.0	+2.7609+.0005	-.002	+.0001+ 1	.11	.33	.15
4821	Pulk <sub>ss</sub> 2680	6.0		54	36.564	94.1	+2.0531+.0012	-.001	+.0002 0	.14	.68	.18
4822	Br 2400	6.0		55	3.584	65.2	+1.0160-.0038	-.004	-.0044+ 1	.08	.28	.15
4823	$\epsilon$ Aquilæ	4.2		55	5.017	72.0	+2.7218+.0006	-.001	-.0044 0	.03	.20	.08
4824	$\gamma$ Lyræ	3.2		55	12.170	78.2	+2.2436+.0013	-.001	-.0002 0	.03	.20	.07
4825	$\nu$ Draconis	5.0		55	37.452	77.4	-0.7196-.0309	+0.001	+.0110- 2	.05	.22	.09
4826	Pulk <sub>ss</sub> 2681	5.5		55	41.051	86.0	+2.4437+.0012	-.001	+.0066 0	.11	.56	.17
4827	Pi 287 m	6.7		55	49.590	70.8	+0.9930-.0046	-.004	+.0034- 1	.15	.52	.26
4828	Pi 260	6.7		55	50.645	83.7	+3.4298-.0038	-.008	-.0004 0	.08	.50	.15
4829	Pulk <sub>ss</sub> 2689	5.9		55	59.159	80.1	+0.2750-.0125	-.006	-.0007+ 1	.12	.92	.30
4830	$\zeta$ Coronæ Aust	4.9		56	2.027	86.4	+4.2549-.0132	-.028	+.0053+ 1	.16	.72	.24
4831	$\lambda$ Lyræ	5.2		56	14.481	82.6	+2.2630+.0013	.000	+.0009 0	.12	.38	.16
4832	$\zeta$ Sagittarii m	2.7		56	15.016	78.8	+3.8199-.0078	-.015	-.0016 0	.06	.26	.10
4833	Groomb 2742	6.8		56	17.019	75.1	+0.6077-.0083	-.005	+.0005+ 1	.10	.50	.20
4834	Br 2391	4.0		56	20.422	79.7	+3.2037-.0020	-.005	-.0021 0	.09	.42	.16
4835	Pi 261	5.9		56	20.461	81.4	+3.6743-.0059	-.012	-.0021+ 1	.11	.52	.19
4836	L 7962	5.9		56	28.172	93.8	+4.1015-.0113	-.023	+.0020 0	.16	1.36	.28
4837	Radcl 4177	7.0		56	54.385	85.6	-1.9874-.0646	+0.036	+.0050+ 2	.13	.72	.22
4838	Br 2421	6.7		56	55.427	71.9	-1.9884-.0654	+0.036	+.0045- 2	.10	.44	.19
4839	Pulk <sub>ss</sub> 2688	5.7		57	13.626	93.4	+2.4362+.0012	-.001	-.0003 0	.14	.66	.17
4840	Pi 274	8.5		57	35.397	71.0	+3.0878-.0012	-.004	-.0038+ 1	.16	.63	.30
4841	Br 2394	5.6		57	38.515	66.6	+3.1607-.0018	-.005	+.0014 0	.13	.50	.25
4842	Pulk <sub>ss</sub> 2693	5.5		57	42.836	86.4	+1.5106-.0007	-.002	+.0023 0	.11	.52	.17
4843	L 7976	5.7		57	59.807	83.0	+3.8560-.0084	-.016	+.0003 0	.13	.72	.23
4844	$\rho$ Telescopii	5.3		58	24.976	83.8	+4.7597-.0222	-.049	+.0027+ 2	.15	.78	.25
4845	Pulk <sub>ss</sub> 2691	6.0		58	28.685	86.6	+3.0339-.0010	-.004	-.0006 0	.11	.54	.17
4846	Pi 299	5.2		58	36.610	75.2	+1.6977+.0003	-.001	+.0019+ 1	.10	.39	.16
4847	$\sigma$ Sagittarii	3.9		58	41.462	64.4	+3.5970-.0055	-.011	+.0052 0	.06	.27	.14
4848	Br 2408	5.7		58	44.690	65.8	+1.1884-.0030	-.003	-.0019 0	.08	.27	.14
4849	L 7944	5.4		59	16.703	80.0	+6.3921-.0639	-.166	+.0267 0	.16	.70	.27
4850	L 7973	6.3	18	59	23.377	91.6	+4.5316-.0188	-.038	+.0016 0	.15	.93	.23

4801 O $\Sigma$  525. 10<sup>M</sup> 1'7" 128°; 7<sup>M</sup> 45" 350°.4820  $\Sigma$  2424. 9<sup>M</sup> 17" 265°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. 8 Ep. $100 \mu' \delta 10$	Remarks.
	" ' "		" "	"	"	" " "	
4801	+33 50 27.21	67.7	+ 4.449+.310	-.02	+ .007 0	.09 .37 .18	*
4802	+ 4 4 23.76	71.8	+ 4.472+.422	-.04	+ .027 0	.04 .22 .10	} $\Sigma 2417. 22'' 103^\circ$ 36 Sagittarii $\xi^1$
4803	+ 4 4 18.17	56.9	+ 4.466+.422	-.04	+ .018 0	.08 .32 .19	
4804	-20 47 13.58	63.8	+ 4.447+.505	-.07	-.011 0	.10 .30 .17	
4805	+41 28 27.97	80.8	+ 4.474+.271	-.02	-.007 0	.11 .37 .15	
4806	-30 57 23.38	78.1	+ 4.481+.546	-.08	-.002 0	.16 1.19 .41	
4807	+17 58 47.90	79.3	+ 4.310+.374	-.03	-.173- 1	.13 .77 .27	9 Aquilæ
4808	- 5 58 33.77	66.4	+ 4.453+.455	-.05	-.032+ 1	.09 .32 .17	37 Sagittarii $\xi^2$
4809	-21 14 17.33	69.2	+ 4.471+.507	-.07	-.018 0	.07 .27 .13	
4810	-37 14 15.73	83.3	+ 4.415+.572	-.09	-.093- 2	.10 .45 .16	
4811	+48 44 2.87	53.7	+ 4.391+.222	-.02	-.131- 1	.14 .51 .32	$\beta$ 1255. $12^M 1'' 6 89^\circ$
4812	-25 0 35.72	82.4	+ 4.515+.520	-.08	-.012 0	.12 .81 .25	122 G Sagittarii
4813	+ 2 24 13.53	60.2	+ 4.513+.427	-.05	-.018 0	.10 .43 .24	64 Serpentis
4814	+43 48 50.94	73.2	+ 4.606+.258	-.02	+ .072 0	.05 .27 .11	Br 2389. $4^M 0$ to $4^M 7$
4815	+32 46 22.68	78.3	+ 4.458+.319	-.02	-.160+ 2	.10 .38 .16	$\beta$ 648. $9^M 5 1'' \pm$ , binary
4816	-12 58 34.21	86.5	+ 4.636+.476	-.06	-.025 0	.12 .64 .19	126 G Sagittarii
4817	+17 13 34.83	85.9	+ 4.654+.376	-.04	-.008 0	.12 .51 .17	Hough. $12^M 6'' 132^\circ$
4818	+13 46 19.63	77.8	+ 4.644+.388	-.04	-.052 0	.11 .36 .16	10 Aquilæ
4819	-25 4 52.62	79.0	+ 4.742+.520	-.08	+ .039 0	.15 .96 .33	127 G Sagittarii
4820	+13 29 21.20	68.6	+ 4.602+.389	-.04	-.120 0	.09 .28 .15	11 Aquilæ *
4821	+38 7 50.47	88.0	+ 4.731+.289	-.02	-.001 0	.13 .51 .17	
4822	+57 40 55.58	54.6	+ 4.705+.141	-.01	-.065- 1	.07 .21 .13	48 Draconis
4823	+14 55 56.34	71.7	+ 4.695+.383	-.04	-.077- 1	.04 .21 .09	
4824	+32 33 7.78	71.3	+ 4.775+.316	-.02	-.007 0	.04 .21 .09	$O\Sigma$ 544. $12^M 13'' 300^\circ$
4825	+71 9 48.86	71.3	+ 4.858-.102	-.07	+ .040+ 2	.05 .21 .10	
4826	+26 5 30.78	84.9	+ 4.804+.344	-.03	-.019+ 1	.12 .50 .17	
4827	+58 5 15.43	59.8	+ 4.881+.139	-.02	+ .046 0	.12 .42 .24	$\Sigma$ 2438. $7^M 2-7^M 8 < 1''$ , binary
4828	-15 25 25.77	81.2	+ 4.830+.483	-.06	-.007 0	.09 .57 .19	129 G Sagittarii
4829	+65 7 24.37	81.8	+ 4.809+.037	-.03	-.040 0	.12 1.04 .32	
4830	-42 14 13.22	83.0	+ 4.796+.601	-.11	-.057+ 1	.14 .60 .21	
4831	+32 0 19.65	75.6	+ 4.877+.318	-.03	+ .007 0	.11 .33 .16	*
4832	-30 1 23.03	77.8	+ 4.871+.538	-.09	.000 0	.06 .32 .12	} $\Sigma$ 2440. $9^M 17'' 123^\circ$ 12 Aquilæ 131 G Sagittarii
4833	+62 15 40.36	70.8	+ 4.831+.084	-.02	-.043 0	.08 .35 .16	
4834	- 5 52 48.00	79.1	+ 4.842+.451	-.06	-.037 0	.08 .34 .13	
4835	-24 59 4.90	78.8	+ 4.703+.517	-.08	-.176 0	.12 .48 .19	
4836	-38 23 50.67	91.2	+ 4.896+.578	-.11	+ .006 0	.14 1.09 .25	
4837	+75 39 8.60	88.4	+ 4.915-.282	-.17	-.012+ 1	.12 .65 .18	} $\Sigma$ 2452. $6'' 218^\circ$
4838	+75 39 14.01	68.0	+ 4.952-.282	-.17	+ .024+ 1	.09 .29 .15	
4839	+26 8 57.43	87.0	+ 4.947+.342	-.03	-.007 0	.13 .51 .18	
4840	- 0 51 8.06	63.7	+ 4.867+.433	-.05	-.118 0	.13 .41 .23	*
4841	- 3 50 38.29	68.0	+ 4.996+.444	-.06	+ .007 0	.11 .41 .20	14 Aquilæ g
4842	+50 23 29.58	89.0	+ 4.983+.212	-.02	-.012 0	.12 .59 .17	
4843	-31 11 37.13	79.4	+ 4.991+.542	-.09	-.028 0	.12 .60 .22	134 G Sagittarii
4844	-52 29 14.75	82.8	+ 4.937+.670	-.17	-.118 0	.11 .55 .19	
4845	+ 1 40 27.07	83.5	+ 4.994+.426	-.05	-.066 0	.11 .46 .16	
4846	+46 47 34.32	70.6	+ 4.982+.238	-.02	-.089 0	.09 .31 .15	16 Lyrae *
4847	-21 53 17.03	64.8	+ 5.011+.506	-.08	-.067+ 1	.07 .33 .16	
4848	+55 30 53.73	53.2	+ 5.073+.165	-.02	-.009 0	.08 .23 .15	49 Draconis
4849	-68 34 40.64	82.3	+ 5.081+.902	-.34	-.047+ 4	.14 .69 .24	56 G Pavonis
4850	-48 27 1.13	88.0	+ 5.139+.637	-.15	+ .002 0	.12 .63 .18	47 G Telescopii

4832 Winlock.  $3^M 4-3^M 6 < 1''$ , binary, 21 yrs.  $\pm$ . 4840  $\Sigma$  2434.  $9^M 24'' 129^\circ$ ; BC:  $10^M 5 1'' 3 54^\circ$ .

4846 h 1362.  $11^M 43'' 277^\circ$ .



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors. a Ep. 100 $\mu$ a 10		
		M	h	m	s		s	s	s	"	"	"	
4851	$\gamma$ Coronæ Aust <i>m</i>	4.3	18	59	39.564	82.1	+ 4.0607— .0108	— .021	+ .0079+ 3	.11	.52	.19	
4852	Br 2398	7.5		59	39.725	88.7	+ 3.1668— .0019	— .005	— .0001 0	.12	.56	.17	
4853	Br 2399	5.8		59	40.862	73.1	+ 3.1670— .0019	— .005	+ .0003 0	.09	.30	.14	
4854	$\sigma$ Octantis	5.5		59	43.71	73.2	+102.437—38.819		+ .109+124	.04	.26	.10	
4855	Groomb 2753	6.7		59	45.870	61.8	+ 1.4108— .0014	— .002	— .0019 0	.16	.64	.35	
4856	Paris 25305	6.0	18	59	57.528	90.2	+ 3.4373— .0042	— .008	— .0006 0	.12	.62	.17	
4857	$\tau$ Sagittarii	3.3	19	0	41.860	78.7	+ 3.7484— .0072	— .014	— .0045+ 2	.06	.26	.10	
4858	$\xi$ Aquilæ	3.0		0	48.839	69.8	+ 2.7570+ .0004	— .001	— .0006+ 1	.03	.15	.06	
4859	$\lambda$ Aquilæ	3.4		0	56.538	78.8	+ 3.1842— .0021	— .005	— .0017+ 1	.04	.20	.07	
4860	Bruss 7916	6.0		1	9.228	94.8	+ 2.2849+ .0013	.000	+ .0055 0	.13	.84	.18	
4861	Pi 293	6.4		1	13.093	82.9	+ 3.7809— .0081	— .014	+ .0002 0	.12	.58	.20	
4862	$\delta$ Coronæ Aust	4.6		1	23.308	82.3	+ 4.1820— .0135	— .025	+ .0030 0	.13	.58	.21	
4863	Br 2440	6.7		2	9.221	72.5	— 2.4761— .0873	+ .051	— .0117+ 7	.07	.38	.16	
4864	$\Upsilon$ Aquilæ	Var.		2	16.163	61.4	+ 2.8234 .0000	— .002	— .0006 0	.13	.48	.27	
4865	Br 2402	5.5		2	24.195	77.6	+ 3.5269— .0054	— .010	+ .0001 0	.11	.62	.23	
4866	Br 2409	5.9		2	28.239	74.5	+ 2.5008+ .0010	— .001	+ .0041 0	.13	.66	.27	
4867	Pi 318	5.7		2	39.609	78.3	+ 2.3799+ .0011	.000	+ .0054 0	.11	.63	.23	
4868	$\alpha$ Coronæ Aust	4.2		2	40.214	83.7	+ 4.0873— .0122	— .022	+ .0074+ 1	.10	.48	.16	
4869	Br 2416	5.5		2	40.360	67.8	+ 1.3490— .0022	— .003	— .0006 0	.07	.21	.11	
4870	Groomb 2765	6.6		3	2.587	67.0	+ 1.9450+ .0009	— .001	+ .0010 0	.16	.70	.34	
4871	$\beta$ Coronæ Aust	4.0		3	9.065	82.4	+ 4.1322— .0131	— .023	— .0002 0	.11	.50	.18	
4872	Br 2413	5.3		3	38.648	62.1	+ 2.2680+ .0012	.000	+ .0095 0	.13	.51	.28	
4873	$\iota$ Lyrae	5.3		3	43.981	82.5	+ 2.1400+ .0012	— .001	— .0006 0	.04	.28	.09	
4874	$\pi$ Sagittarii	3.0		3	49.043	74.9	+ 3.5699— .0059	— .010	— .0004 0	.04	.20	.08	
4875	Br 2410	5.5		4	6.040	64.3	+ 2.9382— .0006	— .003	— .0010 0	.11	.36	.20	
4876	Pi 8	7.8		4	23.331	71.9	+ 2.0420+ .0010	— .001	+ .0010 0	.16	.54	.26	
4877	Pi 11	7.6		4	49.761	84.7	+ 2.0333+ .0010	— .001	.0000 0	.11	.52	.17	
4878	Groomb 2777	7.1		6	0.007	61.1	+ 1.5345— .0010	— .002	+ .0003 0	.15	.72	.38	
4879	Pi 5	7.8		6	13.827	65.5	+ 3.4126— .0046	— .008	+ .0030 0	.15	.58	.30	
4880	Pi 4	6.8		6	29.559	77.1	+ 3.5873— .0065	— .010	+ .0021 0	.10	.51	.20	
4881	Pi 7	6.0		7	4.130	77.8	+ 3.6970— .0079	— .012	— .0015 0	.11	.50	.19	
4882	L 7997 <i>m</i>	5.6		7	8.827	87.8	+ 6.0626— .0624	— .130	+ .0002 0	.14	.84	.23	
4883	Br 2415	5.5		7	15.261	81.8	+ 3.2551— .0032	— .006	+ .0005 0	.05	.27	.09	
4884	Paris 25568	5.7		7	40.117	91.4	+ 3.3556— .0041	— .007	+ .0009 0	.13	.66	.18	
4885	Br 2422	6.0		7	55.870	74.2	+ 2.2999+ .0012	.000	— .0009 0	.08	.33	.14	
4886	L 8040	7.4		8	15.675	78.2	+ 3.8119— .0096	— .014	+ .0019 0	.15	.88	.32	
4887	Br 2419	5.3		8	40.140	65.5	+ 3.0248— .0015	— .003	— .0002 0	.12	.36	.20	
4888	L 8037	5.5		9	4.873	80.4	+ 4.3758— .0192	— .031	— .0016 0	.16	.87	.31	
4889	L 8045	7.7		9	14.854	86.7	+ 3.9260— .0114	— .017	+ .0026 0	.13	.94	.26	
4890	Br 2443	6.5		9	23.405	75.8	+ 0.2326— .0177	— .008	+ .0002— 1	.08	.36	.15	
4891	$\psi$ Sagittarii	5.1		9	24.567	76.6	+ 3.6818— .0079	— .012	+ .0030 0	.05	.24	.09	
4892	Groomb 2789	7.1		9	29.605	80.4	+ 1.5523— .0029	— .002	— .0178— 10	.09	.58	.19	
4893	Dpt 2258	6.8		9	30.270	73.7	+ 1.5504— .0030	— .002	— .0196— 10	.10	.57	.23	
4894	Br 2433	5.4		9	47.100	55.2	+ 1.1369— .0047	— .004	+ .0047— 1	.08	.27	.17	
4895	L 8053	7.6		9	51.093	80.7	+ 3.8290— .0101	— .014	+ .0017 0	.18	1.11	.37	
4896	L 8055	7.7	10		2.748	82.2	+ 3.6894— .0082	— .012	— .0002 0	.13	.88	.28	
4897	$\eta$ Lyrae	4.5	10		21.250	73.2	+ 2.0417+ .0010	.000	.0000 0	.07	.28	.13	
4898	Pulk <sub>ss</sub> 2723	5.8	10		46.705	91.7	+ 2.7335+ .0001	— .001	+ .0002 0	.13	.63	.18	
4899	Br 2425	5.8	10		58.836	57.4	+ 2.5853+ .0006	.000	+ .0030 0	.14	.48	.29	
4900	Pi 32	7.9	19	11	18.488	86.8	+ 3.5662— .0068	— .010	— .0009 0	.15	.69	.22	

4851 h 5084. 4<sup>m</sup>8—5<sup>m</sup>6 2'' 142°, binary, 200 yrs.  $\pm$ .4855  $\Sigma$  2450. 9<sup>m</sup>5 5'' 301°; BC: close double, 0''.2

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup>	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
4851	-37 12 25.30	75.7	+4.874+ .571	-.11	-.286+ 1	.10	.41	.17	*
4852	- 4 11 22.00	82.2	+5.123+ .444	-.06	-.037 0	.10	.45	.16	} Sh 37" 208° 15 Aquilæ h
4853	- 4 10 49.06	66.1	+5.134+ .444	-.06	-.028 0	.08	.25	.13	
4854	-89 15 16.63	74.4	+5.157+ 14.445		-.009+ 15	.04	.26	.10	
4855	+52 6 56.16	53.8	+5.145+ .196	-.02	-.024 0	.11	.42	.26	*
4856	-15 48 39.75	86.4	+5.172+ .482	-.07	-.013 0	.14	.65	.21	138 G Sagittarii
4857	-27 48 59.99	77.0	+4.987+ .525	-.09	-.260- 1	.07	.30	.12	
4858	+13 42 52.56	68.9	+5.155+ .386	-.04	-.102 0	.02	.13	.06	$\beta$ 287. 12 <sup>m</sup> 6" 57°
4859	- 5 1 57.55	77.0	+5.178+ .446	-.06	-.090 0	.04	.22	.08	
4860	+31 35 41.55	93.4	+5.238+ .320	-.03	-.048+ 1	.13	.77	.18	
4861	-28 47 27.41	75.2	+5.278+ .529	-.09	-.013 0	.12	.48	.21	140 G Sagittarii
4862	-40 39 5.99	73.4	+5.271+ .586	-.12	-.035 0	.11	.44	.20	
4863	+76 54 29.66	74.8	+5.301- .352	-.24	-.069- 2	.07	.36	.14	
4864	+10 55 1.79	55.6	+5.353+ .394	-.04	-.027 0	.14	.45	.28	18 Aquilæ 5 <sup>m</sup> 0 to 5 <sup>m</sup> 5
4865	-19 26 49.09	77.9	+5.391+ .493	-.08	.000 0	.10	.58	.21	144 G Sagittarii
4866	+24 5 43.72	69.3	+5.400+ .349	-.03	+ .003+ 1	.11	.58	.26	
4867	+28 28 15.82	72.4	+5.481+ .333	-.03	+ .068+ 1	.10	.50	.21	
4868	-38 3 36.66	75.2	+5.309+ .572	-.12	-.105+ 1	.09	.38	.16	
4869	+53 14 34.75	60.8	+5.435+ .187	-.02	+ .021 0	.06	.20	.12	51 Draconis
4870	+41 15 31.47	63.2	+5.434+ .271	-.02	-.011 0	.15	.60	.32	
4871	-39 29 57.79	80.0	+5.418+ .578	-.12	-.036 0	.11	.49	.18	
4872	+32 20 37.82	61.0	+5.509+ .317	-.03	+ .013+ 1	.10	.40	.22	17 Lyrae *
4873	+35 56 35.43	78.3	+5.497+ .298	-.02	-.006 0	.05	.29	.10	
4874	-21 10 57.67	72.1	+5.470+ .498	-.08	-.040 0	.05	.23	.10	
4875	+ 5 54 57.17	62.5	+5.460+ .409	-.05	-.074 0	.10	.36	.20	
4876	+38 46 10.81	54.8	+5.565+ .284	-.02	+ .007 0	.14	.45	.28	$\Sigma$ 2469. 9 <sup>m</sup> 1" 3 122°
4877	+38 59 43.21	83.3	+5.602+ .282	-.02	+ .007 0	.10	.44	.15	
4878	+50 12 8.21	56.6	+5.698+ .212	-.02	+ .004 0	.13	.54	.32	
4879	-14 45 0.07	71.2	+5.727+ .475	-.07	+ .014 0	.14	.54	.25	
4880	-21 49 26.70	80.4	+5.722+ .499	-.09	-.013 0	.12	.57	.21	151 G Sagittarii
4881	-26 4 27.87	79.2	+5.777+ .513	-.10	-.006 0	.11	.52	.19	152 G Sagittarii
4882	-66 49 59.96	88.4	+5.792+ .844	-.35	+ .002 0	.12	.79	.21	60 G Pavonis *
4883	- 8 6 24.53	78.1	+5.783+ .452	-.07	-.016 0	.05	.25	.10	20 Aquilæ
4884	-12 27 1.62	87.0	+5.800+ .466	-.07	-.033 0	.13	.61	.19	153 G Sagittarii
4885	+31 6 58.82	77.6	+5.848+ .318	-.03	-.007 0	.07	.35	.13	19 Lyrae
4886	-30 0 7.43	78.6	+5.862+ .529	-.10	-.021 0	.14	.95	.33	154 G Sagittarii
4887	+ 2 7 24.39	65.0	+5.911+ .419	-.06	-.006 0	.10	.35	.19	21 Aquilæ
4888	-45 38 24.85	80.0	+5.949+ .606	-.15	-.003 0	.13	.79	.27	51 G Telescopii
4889	-33 42 12.76	85.6	+5.970+ .544	-.11	+ .005 0	.16	1.47	.39	
4890	+65 48 40.25	72.3	+6.006+ .030	-.04	+ .029 0	.06	.31	.13	55 Draconis
4891	-25 25 44.93	76.8	+5.944+ .510	-.10	-.035 0	.06	.25	.10	
4892	+49 40 0.81	77.0	+6.592+ .211	-.02	+ .606- 2	.08	.47	.18	} $\Sigma$ 2486. 9" 218°
4893	+49 40 8.67	67.0	+6.613+ .210	-.02	+ .626- 3	.09	.43	.20	
4894	+56 41 19.12	48.4	+6.050+ .156	-.02	+ .040+ 1	.07	.25	.17	53 Draconis
4895	-30 38 3.07	75.8	+6.002+ .530	-.10	-.014 0	.16	1.13	.42	158 G Sagittarii
4896	-25 50 25.77	78.7	+6.016+ .510	-.10	-.016 0	.13	.95	.32	
4897	+38 58 25.35	64.7	+6.055+ .281	-.03	-.003 0	.06	.22	.12	$\Sigma$ 2487. 8 <sup>m</sup> 28" 83°
4898	+14 54 33.48	84.7	+6.073+ .377	-.05	-.020 0	.11	.48	.16	O $\Sigma$ App. 7 <sup>m</sup> 5 90" 268°
4899	+21 3 25.80	57.1	+6.121+ .357	-.04	+ .011 0	.12	.51	.30	1 Sagittæ
4900	-21 14 56.91	78.7	+6.120+ .492	-.09	-.017 0	.14	.49	.21	

4872  $\Sigma$  2461. 10<sup>m</sup> 4" 312°.4882 Gale. 5<sup>m</sup> 8-7<sup>m</sup> 8 0" 8 40°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.			
			M	h	m		s	s			s	"	"	"
4901	Pi 33	7.3	19	11	18.976	73.8	+3.3327-	.0042	-.005	+0.0096	0	.16	.70	.30
4902	Br 2424	5.6		11	34.062	71.7	+2.9693-	.0012	-.003	+0.0006	0	.11	.38	.18
4903	Br 2423	5.0		11	47.081	77.4	+3.5125-	.0062	-.009	-.0009	0	.04	.21	.08
4904	L 8050	7.0		11	49.963	96.1	+4.6870-	.0264	-.043	+0.0018+	1	.16	1.18	.23
4905	Dpt 2262	5.7		11	52.042	85.5	+2.7475	.0000	-.001	+0.0008	0	.10	.52	.16
4906	Br 2428	4.8		11	55.109	75.8	+2.5789+	.0007	.000	.0000	0	.09	.36	.15
4907	Br 2444	5.3		12	8.071	63.5	+1.0735-	.0052	-.005	-.0016+	2	.10	.44	.23
4908	Pi 39	7.2		12	20.069	65.9	+3.5101-	.0062	-.009	-.0008	0	.15	.56	.29
4909	$\delta$ Draconis	3.1		12	32.001	66.4	+0.0256-	.0235	-.009	+0.173-	2	.03	.14	.07
4910	Groomb 2802	6.5		12	42.847	87.4	+1.5651-	.0011	-.002	+0.0003	0	.13	.44	.16
4911	Br 2466	5.2		12	50.361	65.2	-2.1596-	.0897	+0.020	+0.0132+	16	.07	.26	.14
4912	$\theta$ Lyræ	4.5		12	53.804	85.8	+2.0813+	.0010	.000	-.0009	0	.04	.30	.09
4913	L 8067	5.8		13	2.396	91.2	+3.9752-	.0130	-.019	-.0059	0	.20	1.88	.40
4914	$\omega$ Aquilæ	5.3		13	7.352	78.5	+2.8160-	.0004	-.001	-.0001	0	.03	.21	.07
4915	Pi 50	6.5		13	17.993	75.8	+3.4221-	.0050	-.007	-.0071+	2	.09	.42	.17
4916	Br 2430	5.4		13	27.204	64.0	+3.0525-	.0019	-.003	+0.0002	0	.12	.44	.23
4917	Pulk <sub>ss</sub> 2739	5.6		13	29.722	89.2	+2.5373+	.0008	.000	-.0007	0	.13	.56	.17
4918	L 8034	6.8		13	39.690	82.7	+6.2982-	.0779	-.146	-.0029	0	.18	.75	.27
4919	Br 2431	6.8		13	43.975	74.1	+3.0687-	.0020	-.003	-.0002	0	.11	.42	.19
4920	Groomb 2809	6.2		13	59.267	73.6	+1.7215-	.0010	-.001	-.0007-	4	.12	.48	.21
4921	Pi 61	5.7		14	38.584	80.6	+3.5967-	.0077	-.010	-.0024	0	.11	.56	.20
4922	$\eta$ Telescopii	5.2		14	47.040	86.2	+4.8562-	.0317	-.048	+0.0019+	1	.18	.84	.27
4923	$\kappa$ Cygni	3.9		14	47.523	74.4	+1.3882-	.0030	-.003	+0.0071-	2	.03	.16	.07
4924	Br 2441	5.6		14	59.371	73.8	+2.7989-	.0003	-.001	-.0001	0	.10	.40	.18
4925	Br 2442	6.2		15	10.885	77.5	+2.8206-	.0004	-.001	+0.0022	0	.10	.39	.16
4926	Br 2435	5.2		15	12.595	83.4	+3.2034-	.0032	-.004	+0.0069	0	.07	.40	.13
4927	L 8081	7.4		15	19.258	80.0	+3.8064-	.0106	-.013	+0.0099	0	.15	1.00	.34
4928	Br 2439	5.7		15	26.098	73.2	+3.0962-	.0023	-.003	+0.0001	0	.12	.45	.20
4929	$\beta^1$ Sagittarii	4.0		15	26.998	74.6	+4.3214-	.0199	-.028	-.0001	0	.11	.50	.21
4930	Groomb 2812	7.1		15	37.465	64.7	+2.0045+	.0008	.000	-.0003	0	.12	.63	.31
4931	Pi 67	7.4		15	45.558	70.6	+3.5182-	.0067	-.009	+0.0002	0	.13	.51	.24
4932	$\rho$ Sagittarii	4.1		15	52.419	66.6	+3.4822-	.0063	-.008	-.0017	0	.06	.27	.13
4933	$\beta^2$ Sagittarii	4.3		15	59.717	83.7	+4.3457-	.0203	-.028	+0.0102	0	.13	.72	.23
4934	$\nu$ Sagittarii	4.7		16	0.034	77.9	+3.4379-	.0058	-.007	-.0002	0	.07	.33	.12
4935	Br 2436	6.2		16	0.916	65.4	+3.5016-	.0064	-.008	+0.0066	0	.09	.33	.17
4936	$\alpha$ Sagittarii	4.1		16	57.551	83.8	+4.1644-	.0169	-.023	+0.0025+	1	.09	.56	.17
4937	Pulk <sub>ss</sub> 2748	6.1		17	13.008	86.5	+3.0850-	.0022	-.003	+0.0029	0	.09	.52	.15
4938	L 8090	7.3		17	14.617	88.3	+3.9629-	.0135	-.017	+0.0022	0	.12	.78	.21
4939	Groomb 2822	6.6		17	23.973	71.6	+1.3274-	.0033	-.003	+0.0028+	1	.13	.57	.25
4940	$\tau$ Draconis	4.7		17	28.704	72.4	-1.1276-	.0588	-.008	-.0318-	12	.03	.18	.08
4941	Pi 84	6.0		18	16.167	79.0	+3.7432-	.0102	-.012	-.0004	0	.11	.52	.20
4942	Br 2450	5.2		18	45.132	78.6	+2.4565+	.0010	.000	-.0002	0	.10	.48	.18
4943	Br 2445	5.1		19	11.433	73.4	+3.6546-	.0088	-.011	+0.0038	0	.08	.32	.14
4944	Br 2446	5.6		19	26.542	77.2	+3.6346-	.0087	-.011	-.0015	0	.09	.38	.16
4945	Bruss 8113	5.9		19	42.629	95.1	+3.3926-	.0056	-.007	+0.0048	0	.13	.93	.19
4946	L 8091	5.7		19	46.184	90.2	+4.8295-	.0337	-.046	-.0057	0	.15	1.02	.25
4947	Br 2453	6.2		19	52.621	70.2	+2.6938+	.0002	-.001	-.0007	0	.11	.46	.21
4948	$\pi$ Draconis	4.6		20	9.408	63.0	+0.3176-	.0193	-.010	+0.0031-	1	.05	.26	.13
4949	Br 2456	5.0		20	10.967	81.4	+2.3649+	.0011	.000	+0.0007	0	.10	.34	.14
4950	Br 2452	5.4	19	20	12.117	75.7	+2.8611-	.0012	-.001	+0.0494-	4	.06	.24	.10

4901  $\beta$  140.  $11^m 37'' 326^\circ$ ; BC:  $11^m 2 7'' 210^\circ$ .  
 4916  $\Sigma$  2492.  $10^m 3'' 10^\circ$ .

4908 W. H.  $9^m 40'' 159^\circ$ .  
 4924 W. H.  $8^m 60'' 175^\circ$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta \mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10			Remarks.
	" ' "		" "	"	"	"	"	"	
4901	-11 8 56.01	75.9	+ 6.152+.461	-.07	+ .014+ 1	.14	.59	.24	*
4902	+ 4 39 29.71	73.3	+ 6.145+.409	-.06	-.014 0	.10	.34	.16	22 Aquilæ
4903	-19 7 51.62	74.1	+ 6.158+.484	-.09	-.019 0	.04	.22	.09	43 Sagittarii <i>d</i>
4904	-51 45 7.60	92.8	+ 6.134+.648	-.19	-.047 0	.13	.80	.19	54 G Telescopii
4905	+14 22 2.80	77.3	+ 6.197+.378	-.05	+ .013 0	.09	.37	.15	$\Sigma$ 2489. 10 <sup>m</sup> 8'' 347°
4906	+21 12 49.14	72.6	+ 6.184+.355	-.04	-.004 0	.07	.32	.14	1 Vulpeculæ
4907	+57 31 56.66	58.8	+ 6.131+.146	-.02	-.075 0	.08	.29	.17	54 Draconis
4908	-19 2 35.21	70.4	+ 6.203+.484	-.09	-.020 0	.14	.49	.24	161 G Sagittarii *
4909	+67 29 8.27	67.0	+ 6.328+.003	-.05	+ .089+ 2	.03	.12	.06	
4910	+49 53 38.65	75.5	+ 6.240+.214	-.02	-.014 0	.11	.32	.16	$\Sigma$ 2496. 11 <sup>m</sup> 2'' 79°
4911	+76 23 38.16	68.2	+ 6.138-.300	-.24	-.127+ 2	.08	.24	.13	59 Draconis
4912	+37 57 19.54	80.1	+ 6.266+.284	-.03	-.003 0	.05	.28	.10	
4913	-35 36 12.02	81.8	+ 6.265+.547	-.12	-.016- 1	.20	2.40	.71	162 G Sagittarii
4914	+11 24 53.56	77.6	+ 6.299+.387	-.05	+ .011 0	.03	.22	.08	
4915	-15 42 37.78	73.8	+ 6.037+.470	-.08	-.266- 1	.08	.40	.17	163 G Sagittarii
4916	+ 0 54 11.73	65.9	+ 6.331+.420	-.06	+ .015 0	.09	.30	.16	23 Aquilæ *
4917	+22 50 42.86	83.9	+ 6.310+.348	-.04	-.009 0	.12	.47	.17	2 Vulpeculæ
4918	-68 33 31.89	80.2	+ 6.337+.868	-.41	+ .004 0	.14	.61	.23	62 G Pavonis
4919	+ 0 9 24.00	75.5	+ 6.348+.422	-.06	+ .009 0	.10	.34	.15	24 Aquilæ
4920	+46 48 39.18	66.4	+ 6.645+.235	-.02	+ .285 0	.10	.40	.20	
4921	-22 35 18.57	79.4	+ 6.452+.494	-.10	+ .038 0	.11	.51	.19	165 G Sagittarii
4922	-54 36 34.02	83.2	+ 6.353+.668	-.22	-.073 0	.15	.65	.23	
4923	+53 11 1.69	70.6	+ 6.544+.190	-.02	+ .117+ 1	.03	.15	.07	
4924	+12 11 23.35	69.7	+ 6.461+.384	-.05	+ .018 0	.08	.29	.14	28 Aquilæ A *
4925	+11 20 57.98	74.3	+ 6.480+.387	-.05	+ .021 0	.10	.38	.17	29 Aquilæ
4926	- 5 36 10.17	80.5	+ 6.500+.440	-.07	+ .039+ 1	.06	.33	.12	26 Aquilæ f
4927	-29 47 31.85	75.4	+ 6.468+.524	-.11	-.002+ 1	.15	.99	.37	170 G Sagittarii
4928	- 1 4 41.94	68.3	+ 6.479+.424	-.07	-.001 0	.10	.33	.17	27 Aquilæ d
4929	-44 38 48.18	71.6	+ 6.462+.594	-.17	-.019 0	.09	.39	.17	Dunlop. 7 <sup>m</sup> 28'' 77°
4930	+40 10 32.91	67.4	+ 6.505+.274	-.03	+ .009 0	.13	.52	.26	
4931	-19 25 17.54	74.8	+ 6.512+.482	-.10	+ .005 0	.12	.51	.22	173 G Sagittarii
4932	-18 2 8.04	71.5	+ 6.536+.477	-.10	+ .020 0	.06	.31	.13	
4933	-44 59 16.42	74.9	+ 6.463+.598	-.16	-.063+ 1	.10	.42	.18	
4934	-16 8 34.07	74.0	+ 6.523+.471	-.09	-.004 0	.07	.34	.14	
4935	-18 29 37.94	69.8	+ 6.435+.481	-.10	-.093+ 1	.09	.36	.17	45 Sagittarii $\rho^2$
4936	-40 48 14.87	80.8	+ 6.480+.571	-.14	-.126 0	.09	.51	.17	
4937	- 0 26 30.20	86.1	+ 6.601+.422	-.07	-.026 0	.08	.49	.14	Br 3250
4938	-35 9 30.97	83.6	+ 6.619+.543	-.13	-.010 0	.15	.75	.25	
4939	+54 11 23.13	66.4	+ 6.614+.180	-.02	-.028 0	.11	.47	.23	
4940	+73 10 11.64	74.9	+ 6.759-.162	-.13	+ .110- 4	.04	.21	.08	
4941	-28 3 33.20	79.2	+ 6.712+.511	-.12	-.002 0	.12	.57	.21	179 G Sagittarii
4942	+26 4 13.00	75.6	+ 6.739+.334	-.04	-.015 0	.08	.36	.15	3 Vulpeculæ
4943	-24 42 9.93	74.2	+ 6.728+.499	-.11	-.062 0	.08	.30	.14	47 Sagittarii $\chi^1$
4944	-24 9 29.65	79.2	+ 6.810+.495	-.11	.000 0	.09	.39	.15	49 Sagittarii $\chi^3$
4945	-14 5 42.84	93.7	+ 6.883+.463	-.09	+ .050+ 1	.13	.95	.20	
4946	-54 31 28.63	86.4	+ 6.853+.658	-.23	+ .015- 1	.12	.69	.20	59 G Telescopii *
4947	+16 44 33.70	61.2	+ 6.830+.366	-.05	-.016 0	.11	.40	.22	2 Sagittæ
4948	+65 31 18.94	61.3	+ 6.910+.041	-.05	+ .041 0	.05	.18	.10	
4949	+29 25 32.18	75.1	+ 6.882+.321	-.03	+ .010 0	.10	.30	.14	2 Cygni
4950	+11 43 48.72	72.9	+ 7.503+.395	-.06	+ .630+ 7	.05	.22	.10	31 Aquilæ b

4946 h 5114. 10<sup>m</sup> 1''  $\pm$ , binary? Last seen double in 1860.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		M	h m s		s s	s	s	"	"	"
4951	Br 2454	7.1	19 20 15.672	70.8	+ 2.6961+ .0002	-.001	+ .0018 0	.12	.50	.23
4952	Br 2448	5.7	20 21.319	77.2	+ 3.5806- .0080	-.010	+ .0018 0	.11	.40	.17
4953	$\delta$ Aquilæ	3.4	20 27.395	70.4	+ 3.0253- .0019	-.003	+ .0169 0	.02	.14	.06
4954	Pi 107	5.8	20 29.715	72.0	+ 3.4161- .0059	-.007	+ .0016 0	.13	.56	.25
4955	Pi 102	5.8	20 37.345	80.9	+ 3.7959- .0112	-.013	+ .0009 0	.11	.51	.18
4956	Pi 110	6.8	20 44.255	68.3	+ 3.4045- .0058	-.007	+ .0019 0	.15	.57	.28
4957	Pi 131	6.7	20 46.453	78.9	+ 1.5732- .0015	-.002	-.0003 0	.11	.50	.19
4958	Groomb 2832	6.1	20 46.906	65.3	+ 1.8970+ .0005	-.001	+ .0022 0	.14	.58	.30
4959	L 8078	6.3	20 46.941	85.6	+ 6.2800- .0850	-.138	+ .0009 0	.15	.78	.24
4960	Br 2458	5.4	21 5.283	65.6	+ 2.6313+ .0005	.000	+ .0054+ 1	.12	.45	.23
4961	Br 2459	6.4	21 17.458	67.0	+ 2.4813+ .0017	.000	-.0137+ 4	.08	.32	.16
4962	$\nu$ Aquilæ	4.9	21 24.217	80.9	+ 3.0686- .0024	-.003	-.0007 0	.10	.39	.15
4963	Pulk <sub>ss</sub> 2765	6.0	21 45.270	89.6	+ 2.7876- .0004	-.001	+ .0003 0	.11	.68	.18
4964	Paris 26114	7.6	21 51.074	80.7	+ 3.4915- .0070	-.008	-.0010 0	.12	.90	.29
4965	Br 2461	5.8	21 51.246	66.5	+ 2.6186+ .0005	.000	-.0005 0	.16	.46	.26
4966	Pi 140	7.4	21 55.398	73.0	+ 1.5770- .0014	-.002	-.0010 0	.15	.54	.25
4967	Br 2462	6.3	22 6.179	82.2	+ 2.6232+ .0005	.000	-.0012 0	.12	.36	.15
4968	Cape <sub>ss</sub> 3838	7.3	22 16.290	76.8	+ 3.4938- .0071	-.008	+ .0013 0	.10	.57	.21
4969	L 8109	5.9	22 17.428	92.8	+ 4.2760- .0204	-.025	+ .0102+ 1	.15	2.00	.38
4970	L 8101	6.7	22 27.916	82.3	+ 4.8842- .0362	-.047	+ .0043- 421	.13	.72	.24
4971	$\lambda$ Ursæ Min	6.8	22 29.27	70.8	- 67.822- 26.888		-.103- 421	.03	.15	.06
4972	Br 2464	5.2	22 33.049	66.9	+ 2.1603+ .0010	.000	+ .0005 0	.10	.54	.25
4973	Pi 126	5.6	23 41.062	75.2	+ 3.7146- .0104	-.012	+ .0010 0	.09	.46	.19
4974	Br 2463	6.0	23 57.613	62.3	+ 3.0336- .0021	-.003	-.0007 0	.11	.39	.22
4975	Pi 156	6.9	23 58.212	74.4	+ 1.0874- .0064	-.005	-.0016 0	.15	.54	.24
4976	$\alpha$ Vulpeculæ	4.6	24 32.653	72.3	+ 2.4959+ .0010	.000	-.0093+ 1	.04	.22	.10
4977	Pulk <sub>ss</sub> 2775	5.9	24 46.506	87.8	+ 2.7551- .0002	-.001	+ .0025 0	.11	.60	.18
4978	Br 2470	6.1	24 46.649	64.0	+ 2.5022+ .0008	.000	-.0008 0	.10	.38	.20
4979	Pi 138	6.2	24 57.932	76.9	+ 3.5640- .0084	-.009	+ .0005 0	.11	.45	.18
4980	Br 2476	5.9	24 59.041	66.9	+ 1.4686- .0024	-.003	-.0027 0	.10	.38	.19
4981	Br 2469	6.8	24 59.062	60.7	+ 2.6163+ .0005	.000	-.0009 0	.16	.52	.31
4982	L 8115	6.0	25 0.199	85.0	+ 4.7532- .0337	-.042	+ .0039 0	.16	.75	.25
4983	Br 2465	5.3	25 26.035	80.4	+ 3.1381- .0031	-.004	+ .0006 0	.07	.32	.12
4984	L 8129	6.0	26 9.173	82.4	+ 4.3343- .0233	-.027	-.0023 0	.18	.96	.32
4985	L 8139	7.4	26 26.382	75.0	+ 3.7435- .0102	-.011	+ .0046+ 6	.09	.52	.21
4986	$\beta^1$ Cygni	3.0	26 41.308	76.4	+ 2.4187+ .0010	.000	-.0002 0	.03	.16	.06
4987	$\beta^2$ Cygni	5.6	26 43.447	75.2	+ 2.4180+ .0010	.000	-.0008 0	.06	.28	.12
4988	$\epsilon$ Cygni	3.9	27 11.090	74.6	+ 1.5135- .0026	-.002	+ .0021- 2	.04	.16	.07
4989	L 8138	6.0	27 17.068	89.2	+ 4.1222- .0189	-.020	-.0004 0	.16	1.64	.38
4990	Groomb 2900	6.3	27 44.997	83.4	- 3.5444- .1957	+ .023	+ .0091+ 8	.05	.56	.15
4991	$\epsilon$ Telescopii	5.0	27 47.912	87.0	+ 4.4619- .0270	-.030	-.0025+ 1	.14	1.04	.28
4992	Br 2480	4.8	28 3.317	73.2	+ 2.2288+ .0011	.000	-.0002 0	.11	.51	.22
4993	Pi 159	7.0	28 31.787	81.5	+ 3.6258- .0097	-.010	+ .0003 0	.12	.57	.20
4994	Groomb 2865	5.7	28 40.492	71.2	+ 1.5895- .0017	-.002	-.0030- 1	.13	.68	.29
4995	$\mu$ Aquilæ	4.8	29 12.264	70.2	+ 2.9312- .0012	-.001	+ .0143+ 1	.05	.32	.14
4996	Br 2477	5.4	29 36.664	68.1	+ 3.3078- .0053	-.005	+ .0002 0	.11	.44	.21
4997	Br 2475	5.8	29 57.421	71.5	+ 3.6475- .0102	-.010	+ .0010 0	.10	.42	.19
4998	Br 2483	5.1	30 11.375	67.9	+ 2.6342+ .0003	.000	+ .0003 0	.12	.46	.23
4999	Br 2478	4.6	30 37.376	74.1	+ 3.6555- .0104	-.010	+ .0053 0	.04	.24	.09
5000	Br 2487	5.6	19 30 52.534	60.4	+ 2.3835+ .0010	+ .001	+ .0013 0	.12	.57	.31

4960 h 2871. 10<sup>m</sup> 25" 106°, relative motion.4973 W. H. 9<sup>m</sup> 8" 141°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
4951	+16 45 39.76	65.2	+6.856+ .366	-.05	-.022 0	.10	.42	.21	3 Sagittæ
4952	-21 58 28.79	77.2	+6.887+ .487	-.10	+.001 0	.11	.41	.17	50 Sagittarii
4953	+ 2 54 54.69	69.6	+6.971+ .414	-.06	+.077+ 2	.02	.13	.06	
4954	-15 15 5.50	74.0	+6.895+ .465	-.09	-.002 0	.11	.49	.21	187 G Sagittarii
4955	-29 56 27.74	80.0	-6.853+ .517	-.12	-.055 0	.10	.45	.17	186 G Sagittarii
4956	-14 44 58.90	67.5	+6.905+ .463	-.09	-.012 0	.13	.47	.24	188 G Sagittarii
4957	+50 4 31.76	74.2	+6.930+ .212	-.02	+.010 0	.10	.39	.17	
4958	+43 11 34.58	61.1	+6.882+ .257	-.02	-.039 0	.12	.50	.27	
4959	-68 38 15.27	84.2	+6.911+ .856	-.44	-.010 0	.12	.67	.21	65 G Pavonis
4960	+19 36 8.18	63.2	+6.873+ .358	-.04	-.073+ 1	.11	.46	.24	4 Vulpeculæ *
4961	+24 43 55.58	66.0	+6.331+ .334	-.04	-.631- 2	.07	.30	.15	O $\Sigma$ 11 <sup>m</sup> 31" 77°, rel. mot.
4962	+ 0 8 20.79	78.0	+6.977+ .416	-.07	+.005 0	.08	.34	.14	
4963	+12 49 20.36	87.5	+7.066+ .378	-.05	+.066 0	.11	.59	.17	
4964	-18 33 5.27	77.4	+6.990+ .474	-.10	-.018 0	.11	.75	.27	
4965	+19 53 56.51	67.8	+6.970+ .354	-.04	-.039 0	.14	.51	.26	5 Vulpeculæ
4966	+50 2 38.66	65.8	+7.001+ .212	-.02	-.013 0	.12	.45	.23	
4967	+19 41 32.86	74.1	+6.975+ .355	-.04	-.054 0	.10	.33	.16	$\Sigma$ 2521. 10 <sup>m</sup> 25" 38°, slow.
4968	-18 33 41.23	77.2	+7.035+ .474	-.10	-.008 0	.10	.63	.23	190 G Sagittarii
4969	-43 38 44.92	91.4	+6.903+ .582	-.16	-.141+ 1	.12	1.50	.30	189 G Sagittarii
4970	-55 18 53.76	79.1	+7.050+ .664	-.23	-.009+ 1	.11	.54	.20	61 G Telescopii ( $\mu$ )
4971	+88 59 15.82	72.5	+7.071- 9.272		+.011- 14	.02	.14	.06	Br 2795
4972	+36 7 1.60	60.4	+7.072+ .292	-.03	+.006 0	.10	.47	.25	4 Cygni
4973	-27 11 25.46	76.9	+7.110+ .503	-.11	-.048 0	.09	.41	.16	193 G Sagittarii *
4974	+ 1 44 45.79	71.6	+7.145+ .410	-.07	-.036 0	.09	.35	.16	35 Aquilæ c
4975	+57 49 31.58	67.1	+7.179+ .145	-.02	-.003 0	.13	.46	.24	
4976	+24 27 43.99	71.5	+7.115+ .335	-.04	-.113- 1	.04	.21	.09	Br 2467. 6 Vulpeculæ
4977	+14 23 24.18	83.5	+7.214+ .372	-.05	-.033 0	.11	.49	.17	
4978	+24 33 43.48	68.4	+7.243+ .337	-.04	-.005 0	.10	.56	.25	8 Vulpeculæ
4979	-21 31 12.34	78.9	+7.248+ .481	-.11	-.015 0	.12	.49	.19	197 G Sagittarii
4980	+52 6 59.52	61.5	+7.232+ .196	-.02	-.032 0	.08	.33	.18	7 Cygni ( $\iota^1$ )
4981	+20 4 24.39	58.6	+7.245+ .352	-.04	-.019 0	.15	.51	.30	7 Vulpeculæ
4982	-53 23 46.49	81.4	+7.246+ .643	-.23	-.020 0	.13	.58	.21	62 G Telescopii
4983	- 2 59 50.62	76.1	+7.288+ .423	-.07	-.013 0	.07	.33	.13	36 Aquilæ e
4984	-45 29 0.79	80.3	+7.327+ .584	-.18	-.033 0	.14	.80	.28	63 G Telescopii
4985	-28 12 40.10	73.0	+6.644+ .505	-.13	-.739+ 1	.10	.65	.26	
4986	+27 44 58.03	74.0	+7.394+ .324	-.04	-.009 0	.04	.20	.08	} $\Sigma$ App. 35" 55°
4987	+27 45 17.88	75.8	+7.398+ .324	-.04	-.008 0	.08	.45	.17	
4988	+51 30 59.54	71.1	+7.567+ .202	-.02	+.124 0	.04	.15	.07	Br 2481 ( $\iota^2$ Cygni)
4989	-40 14 58.02	89.1	+7.440+ .554	-.16	-.012 0	.15	1.53	.35	201 G Sagittarii
4990	+79 24 8.79	82.2	+7.452- .481	-.52	-.037+ 1	.06	.45	.14	
4991	-48 18 52.81	84.3	+7.455+ .600	-.20	-.038 0	.12	.75	.23	
4992	+34 14 24.43	70.3	+7.511+ .298	-.03	-.003 0	.09	.38	.17	8 Cygni
4993	-24 4 30.84	80.0	+7.551+ .486	-.12	-.002 0	.12	.56	.21	202 G Sagittarii
4994	+50 5 31.84	67.1	+7.602+ .211	-.02	+.038 0	.12	.55	.26	
4995	+ 7 9 59.40	66.5	+7.455+ .394	-.07	-.152+ 2	.06	.28	.14	
4996	-10 46 43.87	68.8	+7.638+ .442	-.09	-.002 0	.09	.33	.16	37 Aquilæ k
4997	-24 56 17.74	75.1	+7.643+ .488	-.12	-.025 0	.10	.40	.17	51 Sagittarii h <sup>1</sup>
4998	+19 33 17.29	66.4	+7.685+ .352	-.05	-.002 0	.10	.38	.19	9 Vulpeculæ
4999	-25 6 15.75	71.2	+7.697+ .489	-.12	-.025+ 1	.04	.23	.10	52 Sagittarii h <sup>2</sup> *
5000	+29 14 34.10	58.4	+7.760+ .318	-.04	+.018 0	.13	.67	.37	9 Cygni



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m		s	"		"	"	a Ep.	100 $\mu$	a 10
5001	Pi 180	5.9	19	31	15.237	70.6	+ 3.4843-	.0078	-.008	+ .0009	0	.14	.56	.26
5002	Groomb 2877	5.5		31	25.616	62.3	+ 1.9558+	.0006	.000	-.0001	0	.16	.75	.39
5003	$\kappa$ Aquilæ	5.1		31	30.720	76.9	+ 3.2292-	.0045	-.004	+ .0002	0	.04	.24	.09
5004	$\epsilon$ Aquilæ	4.5		31	32.893	70.1	+ 3.1045-	.0031	-.002	-.0003	0	.10	.32	.16
5005	Pi 211	5.9		31	44.446	69.3	+ 1.5543-	.0014	-.002	+ .0031+	3	.10	.54	.24
5006	Pulk <sub>ss</sub> 2791	5.7		31	56.280	93.0	+ 3.3828-	.0064	-.006	-.0082+	1	.13	.70	.18
5007	Br 2491	6.2		32	12.679	65.3	+ 2.1551+	.0011	.000	+ .0001	0	.12	.46	.24
5008	Br 2485	5.6		32	29.035	71.8	+ 3.1839-	.0039	-.003	+ .0068	0	.10	.42	.19
5009	$\sigma$ Draconis	4.8		32	33.290	63.6	- 0.1074-	.0184	-.016	+ .1057+	91	.06	.24	.13
5010	$\epsilon$ Sagittæ	5.8		32	45.800	61.9	+ 2.7156-	.0001	.000	+ .0010	0	.09	.32	.17
5011	Br 2496	6.8		33	15.142	70.6	+ 1.6082-	.0017	-.001	-.0007	0	.08	.32	.15
5012	Groomb 2893	5.4		33	32.094	64.6	+ 1.8594+	.0004	.000	-.0086+	1	.16	.70	.36
5013	Groomb 2899	6.8		33	42.641	80.4	+ 0.6455-	.0155	-.009	+ .0020	0	.08	.50	.17
5014	$\theta$ Cygni	4.5		33	45.570	76.6	+ 1.6087-	.0023	-.001	-.0029-	4	.04	.16	.07
5015	Br 2486 <i>m</i>	6.6		33	48.936	73.2	+ 3.6094-	.0101	-.009	.0000	0	.11	.40	.19
5016	Br 2488	6.3		34	6.500	74.3	+ 3.6110-	.0102	-.009	+ .0018	0	.10	.36	.16
5017	<i>R</i> Cygni	Var.		34	8.105	64.6	+ 1.6125-	.0015	-.001	-.0009	0	.16	.80	.40
5018	$\sigma$ Aquilæ	5.2		34	15.522	55.1	+ 2.9614-	.0018	-.001	-.0001	0	.11	.39	.24
5019	Br 2490	5.5		34	59.694	76.0	+ 3.4398-	.0074	-.006	+ .0046	0	.06	.28	.12
5020	Groomb 2917	7.0		35	25.449	74.6	- 0.5792-	.0499	-.021	-.0231+	2	.08	.58	.22
5021	$\phi$ Cygni	4.9		35	25.616	70.0	+ 2.3687+	.0011	+ .001	-.0002	0	.11	.39	.19
5022	Br 2493	5.8		35	34.302	62.0	+ 3.0919-	.0032	-.002	+ .0014	0	.13	.45	.25
5023	$\alpha$ Sagittæ	4.5		35	37.623	57.6	+ 2.6815+	.0001	.000	+ .0011	0	.10	.33	.20
5024	Br 2503	5.4		36	11.177	62.9	+ 1.9525+	.0005	.000	+ .0019	0	.10	.36	.20
5025	L 8191	7.7		36	14.818	92.3	+ 4.0183-	.0185	-.017	+ .0037	0	.14	.99	.22
5026	Groomb 2907	6.0		36	26.315	67.3	+ 1.3521-	.0049	-.003	+ .0052-	3	.11	.48	.23
5027	$\beta$ Sagittæ	4.5		36	33.448	73.5	+ 2.6939+	.0001	.000	+ .0001	0	.08	.28	.13
5028	Br 2494	5.2		36	47.968	63.6	+ 3.4344-	.0076	-.005	+ .0042	0	.06	.27	.14
5029	Br 2500	6.6		37	31.360	80.4	+ 2.8139-	.0008	-.001	-.0006	0	.12	.36	.16
5030	L 8094	6.7		37	36.588	77.9	+ 11.3154-	.5390	-.875	+ .0009-	3	.07	.58	.20
5031	Groomb 2909	5.2		37	45.068	80.8	+ 1.8524-	.0002	.000	+ .0091-	1	.12	.39	.16
5032	Pi 230	5.6		37	51.357	74.3	+ 3.4247-	.0072	-.005	+ .0104+	1	.10	.45	.19
5033	$\chi$ Aquilæ <i>m</i>	5.5		37	51.715	58.1	+ 2.8228-	.0008	-.001	.0000	0	.11	.36	.22
5034	L 8156	5.6		37	53.514	89.4	+ 6.9902-	.1464	-.171	+ .0012-	2	.15	.88	.24
5035	Groomb 2912	6.4		38	32.397	74.5	+ 2.0499+	.0008	.000	-.0025	0	.14	.58	.25
5036	L 8208	7.1		39	4.398	77.4	+ 3.8064-	.0145	-.012	+ .0008	0	.10	.52	.20
5037	Br 2512	6.2		39	9.429	68.6	+ 1.5951-	.0015	-.001	-.0162+	1	.06	.22	.11
5038	Br 2513	6.3		39	12.290	55.5	+ 1.5980-	.0014	-.001	-.0138+	2	.10	.39	.24
5039	Br 2508	5.6		39	33.431	77.6	+ 2.4936+	.0009	+ .001	+ .0004	0	.10	.40	.17
5040	L 8211	5.7		39	38.459	81.0	+ 3.8337-	.0152	-.012	-.0005	0	.09	.60	.20
5041	$\nu$ Telescopii	5.5		39	51.334	85.4	+ 4.9205-	.0454	-.042	+ .0105+	2	.14	.75	.23
5042	$\psi$ Aquilæ	6.4		39	55.065	54.7	+ 2.7908-	.0006	.000	-.0005	0	.14	.36	.24
5043	Groomb 2925	6.1		40	24.816	85.5	+ 2.0018+	.0007	.000	+ .0014	0	.13	.57	.19
5044	Br 2504	5.1		40	31.775	69.6	+ 3.5033-	.0091	-.007	-.0095+	1	.06	.27	.12
5045	Br 2514	5.1		40	40.189	84.2	+ 2.1629+	.0011	+ .001	+ .0057	0	.06	.44	.13
5046	$\nu$ Aquilæ	6.1		40	48.059	66.9	+ 2.9195-	.0016	-.001	+ .0036	0	.16	.56	.29
5047	$\gamma$ Aquilæ	2.8		41	30.341	67.5	+ 2.8523-	.0011	-.001	+ .0009	0	.02	.10	.05
5048	$\delta$ Cygni	2.8		41	50.979	74.4	+ 1.8755+	.0001	.000	+ .0050	0	.04	.20	.08
5049	Pi 278	6.4		42	7.595	65.6	+ 2.2352+	.0012	+ .001	.0000	0	.18	.60	.36
5050	L 8207 <i>m</i>	5.6	19	42	15.779	91.0	+ 5.1167-	.0550	-.048	+ .0023	0	.15	.98	.24

5015 Sec.  $7^{\text{M}}1-7^{\text{M}}6$   $0^{\text{H}}17$   $332^{\circ}$ .5050 Innes.  $5^{\text{M}}8-7^{\text{M}}8$   $0^{\text{H}}6$   $89^{\circ}$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10	Remarks.
5001	— 18 27 11.99	76.8	+7.747+ .465	— .11	— .026 0	.13 .56 .23	209 G Sagittarii
5002	+42 11 36.24	66.6	+7.766+ .260	— .03	— .021 0	.12 .46 .23	
5003	— 7 14 59.66	74.5	+7.792+ .430	— .08	— .002 0	.05 .28 .11	
5004	— 1 30 30.23	74.2	+7.779+ .414	— .08	— .017 0	.08 .29 .13	
5005	+51 1 18.46	63.0	+7.609+ .206	— .03	— .203 0	.10 .45 .23	
5006	— 14 31 17.43	91.1	+7.693+ .450	— .10	— .135— 1	.14 .69 .19	
5007	+36 43 20.71	62.9	+7.844+ .286	— .03	— .006 0	.10 .41 .22	11 Cygni
5008	— 4 52 15.17	73.0	+7.813+ .424	— .08	— .059+ 1	.09 .36 .16	42 Aquilæ
5009	+69 29 27.73	62.8	+6.122— .004	— .08	— 1.754+ 14	.05 .22 .12	Parallax 0".24
5010	+16 14 16.88	60.8	+7.907+ .361	— .06	+ .013 0	.08 .33 .18	
5011	+50 0 50.97	65.7	+7.966+ .212	— .03	+ .032 0	.08 .31 .16	
5012	+44 28 23.64	59.6	+7.845+ .244	— .03	— .111— 1	.14 .57 .32	
5013	+63 12 42.01	81.8	+7.977+ .083	— .04	+ .007 0	.09 .43 .15	
5014	+49 59 21.57	67.1	+8.221+ .211	— .03	+ .247 0	.04 .15 .07	
5015	— 23 39 18.38	75.7	+7.949+ .479	— .12	— .030 0	.11 .44 .19	53 Sagittarii *
5016	— 23 39 28.10	81.4	+7.999+ .479	— .12	— .003 0	.10 .42 .15	218 G Sagittarii
5017	+49 58 28.81	66.7	+7.993+ .212	— .03	— .011 0	.14 .64 .31	Groomb 2896. 5 <sup>m</sup> 9 to > 14 <sup>m</sup>
5018	+ 5 10 11.13	61.0	+8.014+ .392	— .07	.000 0	.09 .34 .19	
5019	— 16 31 21.52	74.9	+8.019+ .456	— .10	— .054+ 1	.07 .32 .13	54 Sagittarii e <sup>1</sup>
5020	+71 22 59.31	74.9	+8.035— .084	— .11	— .073— 3	.08 .45 .18	Küstner 9 <sup>m</sup> 1" 267°
5021	+29 55 21.32	67.1	+8.143+ .312	— .04	+ .035 0	.08 .35 .17	
5022	— 0 51 11.03	66.4	+8.130+ .409	— .08	+ .010 0	.11 .40 .21	45 Aquilæ
5023	+17 47 1.16	70.2	+8.092+ .354	— .06	— .032 0	.06 .29 .13	
5024	+42 35 12.92	59.6	+8.193+ .257	— .03	+ .024 0	.08 .35 .20	14 Cygni
5025	— 37 40 25.93	92.1	+8.146+ .532	— .16	— .027 0	.15 1.06 .24	
5026	+54 44 21.62	66.9	+8.359+ .177	— .03	+ .170+ 1	.09 .47 .22	
5027	+17 14 38.97	71.5	+8.160+ .355	— .06	— .038 0	.07 .29 .13	
5028	— 16 21 30.48	65.2	+8.201+ .454	— .11	— .017+ 1	.07 .30 .15	55 Sagittarii e <sup>2</sup>
5029	+11 57 30.03	77.6	+8.267+ .370	— .06	— .008 0	.11 .35 .16	46 Aquilæ
5030	— 81 36 0.64	79.4	+8.293+ 1.499	— 2.15	+ .011 0	.07 .60 .20	44 G Octantis
5031	+45 17 15.88	77.1	+8.398+ .244	— .03	+ .105+ 1	.11 .35 .16	
5032	— 15 42 6.88	75.5	+8.120+ .452	— .11	— .182+ 1	.10 .45 .18	226 G Sagittarii
5033	+11 35 27.01	61.2	+8.289+ .371	— .07	— .013 0	.10 .40 .22	O 2380. 5 <sup>m</sup> 8—7 <sup>m</sup> 0 0"6 74°
5034	— 72 44 49.61	86.2	+8.325+ .924	— .69	+ .020 0	.12 .67 .20	70 G Pavonis
5035	+40 1 1.90	68.2	+8.367+ .268	— .03	+ .011 0	.13 .49 .24	
5036	— 31 8 34.48	75.2	+8.380+ .500	— .14	— .019 0	.10 .44 .18	227 G Sagittarii
5037	+50 17 34.92	79.5	+8.253+ .206	— .03	— .152— 2	.06 .18 .08	16 Cygni c <sup>1</sup>
5038	+50 17 7.94	55.9	+8.253+ .206	— .03	— .156— 2	.08 .33 .20	c <sup>2</sup> 2 App. 38" 135°
5039	+25 31 56.50	75.0	+8.450+ .326	— .05	+ .013 0	.09 .36 .15	10 Vulpeculæ
5040	— 32 8 59.29	81.4	+8.416+ .503	— .15	— .028 0	.10 .51 .18	228 G Sagittarii
5041	— 56 36 10.46	84.9	+8.312+ .648	— .29	— .149+ 1	.12 .65 .20	
5042	+13 3 45.38	60.5	+8.451+ .365	— .06	— .015 0	.13 .45 .26	
5043	+41 31 58.28	81.6	+8.512+ .261	— .03	+ .007 0	.12 .45 .18	
5044	— 20 0 6.08	71.2	+8.418+ .457	— .12	— .096— 1	.06 .27 .12	56 Sagittarii f
5045	+37 6 45.41	77.3	+8.559+ .282	— .04	+ .034+ 1	.06 .29 .11	15 Cygni
5046	+ 7 22 13.89	57.4	+8.527+ .382	— .08	— .009 0	.14 .47 .28	
5047	+10 22 9.76	65.5	+8.587+ .372	— .07	— .004 0	.02 .11 .05	
5048	+44 53 11.40	68.5	+8.656+ .244	— .03	+ .037+ 1	.04 .16 .08	2579. 8 <sup>m</sup> < 2", slow binary
5049	+34 46 7.42	55.9	+8.628+ .290	— .04	— .012 0	.12 .47 .28	W. H. 8 <sup>m</sup> 5 38" 27°
5050	— 59 26 34.39	87.9	+8.666+ .670	— .33	+ .015 0	.12 .71 .20	74 G Pavonis *

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
5051	$\chi$ Cygni	5.2	19	42	37.794	72.6	+2.2760+.0020	+ .001	+ .0009+ 4	.07	.30	.13
5052	$\delta$ Sagittæ	3.8		42	55.727	80.8	+2.6746+.0001	.000	+ .0001 0	.04	.22	.08
5053	Br 2515	6.4		43	31.389	74.9	+3.3107-.0063	-.004	+ .0020 0	.10	.56	.22
5054	Arm <sub>40</sub> 2511	6.0		43	54.806	01.0	+2.1296+.0011	.000	+ .0013 0	.12	.96	.15
5055	$\pi$ Aquilæ <i>m</i>	5.9		43	59.300	71.4	+2.8271-.0009	-.001	+ .0006 0	.10	.34	.17
5056	Cape <sub>30</sub> 3903	7.8		44	14.157	86.6	+3.6838-.0128	-.010	+ .0006 0	.12	.64	.19
5057	Groomb 2952	6.0		44	27.059	70.7	-0.0665-.0376	-.021	+ .0026+ 1	.09	.57	.24
5058	$\zeta$ Sagittæ <i>m</i>	5.0		44	32.320	67.0	+2.6631+.0002	.000	+ .0013 0	.10	.50	.24
5059	L 8227	5.8		44	39.596	67.8	+4.7984-.0442	-.036	-.0014 0	.28	2.02	.90
5060	L 8239	5.6		45	3.219	86.1	+4.0851-.0222	-.016	+ .0025 0	.13	.86	.24
5061	Br 2519	5.7		45	16.714	84.0	+3.3040-.0064	-.004	-.0016 0	.08	.40	.13
5062	$\alpha$ Aquilæ	0.6		45	54.273	68.8	+2.9274-.0018	-.001	+ .0361- 2	.02	.10	.05
5063	Br 2529	6.4		45	55.125	79.7	+2.1224+.0012	+ .001	+ .0002 0	.10	.36	.15
5064	L 8226	6.3		45	56.773	88.1	+5.2717-.0638	-.053	+ .0028- 1	.15	.84	.24
5065	$\circ$ Aquilæ	5.3		46	14.199	71.0	+2.8737-.0010	-.001	+ .0157+ 1	.10	.36	.17
5066	Br 2522	6.2		46	23.362	73.9	+3.4908-.0094	-.006	.0000 0	.08	.38	.16
5067	$X$ Cygni	Var.		46	43.187	77.7	+2.3008+.0013	+ .001	-.0060 0	.16	1.24	.44
5068	Br 2527	5.0		46	45.752	67.9	+2.5829+.0006	+ .001	+ .0016 0	.13	.50	.25
5069	Br 2534	5.5		47	1.390	62.3	+2.1252+.0010	+ .001	+ .0009- 1	.11	.48	.26
5070	Groomb 2950	5.8		47	11.415	62.6	+2.0598+.0010	.000	+ .0008 0	.15	.64	.34
5071	$\eta$ Aquilæ	Var.		47	22.752	72.5	+3.0573-.0032	-.002	+ .0005 0	.05	.30	.12
5072	Arm <sub>40</sub> 2524	5.8		47	49.146	89.8	+2.5224+.0008	+ .001	-.0011 0	.10	.80	.19
5073	Br 2532	6.5		47	54.143	86.8	+2.6754+.0001	.000	-.0004 0	.13	.39	.16
5074	Paris 27025	5.8		48	4.511	90.2	+3.1434-.0043	-.003	+ .0010 0	.12	.66	.18
5075	Br 2542	5.2		48	7.181	62.7	+1.5058-.0028	-.002	-.0019+ 1	.08	.26	.14
5076	L 8262	6.4		48	18.499	89.8	+3.5975-.0112	-.008	-.0094+ 3	.10	.69	.17
5077	L 8224	6.0		48	21.542	86.4	+6.2580-.1153	-.098	+ .0158+ 2	.18	.88	.28
5078	$\epsilon$ Sagittarii	4.1		48	21.841	83.2	+4.1494-.0249	-.017	+ .0008 0	.10	.68	.21
5079	$\epsilon$ Draconis	3.9		48	30.842	71.8	-0.1821-.0442	-.025	+ .0158 0	.03	.20	.08
5080	L 8260	6.7		48	40.647	81.6	+3.8522-.0173	-.012	-.0014 0	.14	.72	.25
5081	L 8245	5.4		48	42.374	89.3	+5.0653-.0567	-.043	+ .0014 0	.16	.80	.23
5082	Br 2530	6.2		48	42.739	70.4	+3.2570-.0058	-.003	-.0001 0	.13	.51	.24
5083	Pulk <sub>38</sub> 2847	5.8		48	58.294	89.8	+1.8090-.0003	.000	+ .0006 0	.12	.66	.18
5084	$\epsilon$ Pavonis	4.0		49	1.859	78.8	+7.0172-.1646	-.144	+ .0162+ 7	.09	.57	.20
5085	Groomb 2962	6.0		49	10.393	70.1	+1.7667-.0006	.000	-.0016 0	.12	.62	.28
5086	Br 2537	4.7		49	12.650	74.7	+2.5502+.0007	+ .001	+ .0021 0	.11	.45	.20
5087	Br 2531	6.0		49	12.874	67.3	+3.2500-.0058	-.003	+ .0004 0	.10	.33	.17
5088	Pi 314	6.7		49	13.259	73.8	+3.2512-.0058	-.003	+ .0014 0	.18	.68	.30
5089	$\xi$ Aquilæ	5.0		49	24.101	75.5	+2.9076-.0015	-.001	+ .0064 0	.09	.28	.14
5090	Br 2535	5.7		49	37.431	73.1	+3.0742-.0034	-.002	+ .0021 0	.13	.48	.22
5091	$\omega$ Sagittarii	4.8		49	42.908	73.7	+3.6810-.0134	-.009	+ .0156- 1	.09	.40	.17
5092	Br 2541	5.7		50	16.474	87.7	+2.5451+.0008	+ .001	+ .0016 0	.12	.48	.16
5093	$\beta$ Aquilæ	3.8		50	24.071	67.2	+2.9469-.0015	-.001	+ .0023+ 3	.02	.11	.05
5094	$\mu^1$ Pavonis	5.8		50	39.206	83.8	+5.8872-.0966	-.077	-.0028+ 8	.16	.81	.27
5095	Br 2533	4.6		50	48.721	72.8	+3.6870-.0138	-.009	+ .0004 0	.08	.28	.13
5096	Yarn 8793	6.0		51	9.056	92.7	+2.1901+.0013	+ .001	+ .0001 0	.12	.90	.20
5097	Br 2552	5.1		51	14.269	70.7	+1.2346-.0070	-.004	+ .0008 0	.10	.33	.16
5098	$S$ Sagittæ	Var.		51	28.718	69.4	+2.7255-.0002	+ .001	+ .0002 0	.13	.44	.22
5099	$\phi$ Aquilæ	5.4		51	30.062	53.5	+2.8406-.0011	.000	+ .0013 0	.16	.45	.30
5100	$\mu^2$ Pavonis	5.4	19	52	8.708	83.6	+5.8871-.0988	-.080	+ .0066+ 2	.16	.81	.27

5051  $\Sigma$  2580. 8<sup>m</sup> 26" 71°.5058 Clark. 5<sup>m</sup> 7-6<sup>m</sup> 0' 2 158°, very slow.5059 Dunlop. 5<sup>m</sup> 8-7<sup>m</sup> 5 23" 150°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10	Remarks.
	" ' "		" "	"	"	" " "	
5051	+33 29 41.11	65.9	+ 8.228+.295	-.04	-.452 0	.06 .25 .12	Br 2517. 17 Cygni *
5052	+18 17 14.40	76.5	+ 8.713+.348	-.06	+.009 0	.05 .24 .09	
5053	-11 7 10.39	74.5	+ 8.721+.431	-.10	-.029 0	.08 .42 .17	
5054	+38 9 35.42	97.6	+ 8.778+.276	-.03	-.003 0	.12 .69 .15	
5055	+11 34 0.37	66.4	+ 8.780+.367	-.07	-.007 0	.09 .31 .16	$\Sigma$ 2583. 6 <sup>M</sup> 4-7 <sup>M</sup> 0 1'4 117°
5056	-26 58 1.65	81.1	+ 8.809+.479	-.14	+.003 0	.12 .65 .22	
5057	+69 5 33.64	69.0	+ 8.799-.012	-.08	-.024 0	.08 .49 .22	
5058	+18 53 27.86	56.2	+ 8.855+.345	-.06	+.025 0	.09 .34 .20	$\Sigma$ 2585. 9 <sup>M</sup> 9'' 312°*
5059	-55 13 32.00	66.9	+ 8.818+.624	-.28	-.022 0	.19 1.35 .61	71 G Telescopii *
5060	-40 7 40.39	82.9	+ 8.847+.530	-.18	-.024 0	.12 .69 .22	235 G Sagittarii
5061	-11 1 2.53	73.4	+ 8.924+.428	-.10	+.036 0	.08 .32 .14	51 Aquilæ
5062	+ 8 36 14.56	64.7	+ 9.317+.383	-.07	+.380+ 5	.02 .11 .06	Alair Parallax, 0''23
5063	+38 27 29.48	72.4	+ 8.923+.273	-.04	-.016 0	.09 .31 .15	
5064	-61 25 44.18	87.2	+ 8.956+.684	-.36	+.015 0	.12 .73 .20	75 G Pavonis
5065	+10 9 54.94	65.7	+ 8.818+.373	-.07	-.145+ 2	.09 .31 .16	
5066	-19 17 56.57	73.0	+ 8.917+.451	-.13	-.058 0	.09 .36 .16	57 Sagittarii
5067	+32 39 39.20	72.3	+ 8.947+.295	-.04	-.054- 1	.15 .96 .39	Pulk <sub>88</sub> 2836 4 <sup>M</sup> 0 to 13 <sup>M</sup> .5
5068	+22 21 20.35	64.2	+ 8.985+.333	-.06	-.019 0	.12 .51 .26	12 Vulpeculæ
5069	+38 27 53.34	59.1	+ 9.122+.273	-.04	+.097 0	.11 .39 .23	19 Cygni
5070	+40 20 41.93	60.5	+ 9.016+.264	-.03	-.022 0	.11 .44 .24	
5071	+ 0 44 55.79	70.6	+ 9.043+.394	-.08	-.009 0	.05 .29 .12	3 <sup>M</sup> .5 to 4 <sup>M</sup> .7
5072	+24 44 6.99	90.6	+ 9.106+.324	-.05	+.019 0	.11 .82 .19	
5073	+18 24 53.00	81.8	+ 9.091+.344	-.06	-.003 0	.12 .37 .16	9 Sagittæ
5074	- 3 22 24.97	87.8	+ 9.113+.404	-.10	+.006 0	.11 .60 .17	
5075	+52 44 2.66	52.2	+ 9.040+.192	-.03	-.070 0	.08 .24 .16	20 Cygni d
5076	-24 11 23.02	86.3	+ 8.714+.462	-.14	-.411- 1	.10 .73 .20	242 G Sagittarii *
5077	-69 25 33.05	83.7	+ 9.039+.811	-.58	-.090+ 2	.14 .73 .24	76 G Pavonis
5078	-42 7 51.58	80.5	+ 9.181+.535	-.20	+.052 0	.09 .52 .18	
5079	+70 0 47.67	69.7	+ 9.172-.025	-.10	+.031+ 2	.04 .17 .08	$\Sigma$ 2603. 7 <sup>M</sup> 6 3'' 3°
5080	-33 18 26.90	77.0	+ 9.160+.496	-.16	+.006 0	.13 .67 .26	244 G Sagittarii
5081	-59 9 51.61	84.4	+ 9.137+.653	-.34	-.019 0	.13 .56 .19	80 G Pavonis
5082	- 8 50 2.50	68.6	+ 9.134+.418	-.11	-.022 0	.12 .39 .20	56 Aquilæ
5083	+46 46 8.72	86.0	+ 9.163+.231	-.03	-.014 0	.12 .52 .17	
5084	-73 10 27.28	76.6	+ 9.049+.908	-.77	-.132+ 2	.08 .43 .16	
5085	+47 40 24.62	71.6	+ 9.190+.225	-.03	-.002 0	.09 .42 .18	
5086	+23 49 6.38	71.6	+ 9.223+.327	-.06	+.028 0	.09 .36 .16	13 Vulpeculæ
5087	- 8 29 16.17	64.8	+ 9.175+.417	-.11	-.021 0	.08 .29 .16	57 Aquilæ
5088	- 8 29 51.29	75.6	+ 9.176+.418	-.11	-.020 0	.14 .63 .26	$\Sigma$ 2594. 36'' 171°
5089	+ 8 12 9.24	69.8	+ 9.127+.373	-.08	-.083+ 1	.09 .27 .14	
5090	+ 0 0 43.84	70.2	+ 9.214+.394	-.09	-.013 0	.11 .38 .19	58 Aquilæ
5091	-26 33 53.13	70.8	+ 9.317+.474	-.14	+.083+ 2	.09 .38 .17	
5092	+24 3 25.26	77.1	+ 9.269+.325	-.06	-.009 0	.10 .35 .15	
5093	+ 6 9 24.45	66.2	+ 8.805+.377	-.08	-.483 0	.02 .11 .05	O $\Sigma$ 532. 11 <sup>M</sup> 12'' 14°, v. slow
5094	-67 12 46.48	82.3	+ 9.103+.756	-.51	-.204 0	.14 .69 .24	L 8244
5095	-27 26 6.09	73.8	+ 9.302+.472	-.15	-.018 0	.08 .35 .15	59 Sagittarii b
5096	+36 43 54.62	93.1	+ 9.354+.278	-.04	+.008 0	.13 .88 .20	
5097	+57 15 40.40	65.4	+ 9.362+.155	-.03	+.010 0	.08 .26 .14	23 Cygni
5098	+16 22 11.18	66.3	+ 9.368+.347	-.07	-.003 0	.11 .40 .21	Br 2544. 10 Sagittæ *
5099	+11 9 29.11	53.8	+ 9.381+.362	-.08	+.008 0	.13 .45 .28	
5100	-67 12 51.18	77.9	+ 9.347+.755	-.51	-.076+ 1	.13 .55 .22	L 8251

5076. 10<sup>M</sup> 17'' 125°, rectilinear relative motion.5098. 5<sup>M</sup>6 to 6<sup>M</sup>4

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.			
			M	h m s	°		"	"			"	"		
5101	Br 2540	5.1	19	52	16.767	72.5	+ 3.4055-	.0084	-.004	+ .0004+	1	.08	.36	.16
5102	Br 2547	5.1		52	17.278	72.8	+ 2.1432+	.0013	+ .001	-.0005	0	.09	.28	.14
5103	$\eta$ Cygni	4.1		52	33.265	77.6	+ 2.2499+	.0014	+ .002	-.0028	0	.09	.39	.15
5104	Br 2539	5.0		52	51.691	73.9	+ 3.6604-	.0135	-.008	+ .0018	0	.09	.38	.16
5105	$\psi$ Cygni	5.0		53	2.670	76.7	+ 1.5518-	.0026	-.002	-.0044	0	.04	.22	.09
5106	Groomb 2992	7.6		53	5.761	71.9	+ 0.9862-	.0116	-.008	-.0008	0	.11	.60	.26
5107	Br 2545	5.6		53	12.994	47.8	+ 2.7236-	.0002	+ .001	+ .0002	0	.14	.40	.29
5108	$\theta$ Sagittarii	4.4		53	13.745	88.1	+ 3.9144-	.0195	-.012	+ .0013	0	.12	1.05	.26
5109	L 8269	5.3		53	19.308	86.5	+ 5.0828-	.0601	-.042	+ .0015+	1	.20	.82	.27
5110	L 8292	5.6		53	21.861	85.3	+ 3.9019-	.0190	-.012	+ .0069	0	.16	.86	.27
5111	Cape <sub>80</sub> 3942	7.1		53	38.633	81.3	+ 3.5587-	.0115	-.007	-.0001	0	.13	.60	.22
5112	L 8285	6.0		53	43.428	87.4	+ 4.2639-	.0296	-.019	+ .0003	0	.18	1.14	.32
5113	Groomb 2984	5.6		53	45.529	62.8	+ 2.0849+	.0011	+ .001	+ .0021	0	.12	.68	.34
5114	Br 2566	7.2		53	49.248	77.7	+ 0.6139-	.0204	-.013	.0000	0	.10	.51	.19
5115	L 8296	5.8		53	53.688	92.9	+ 3.8745-	.0180	-.012	+ .0107+	2	.16	1.00	.24
5116	Pi 371	5.2		54	0.954	67.0	+ 1.1490-	.0086	-.006	-.0009	0	.09	.26	.14
5117	Groomb 2990	6.7		54	1.080	64.4	+ 1.6413-	.0018	-.001	+ .0005	0	.14	.60	.31
5118	$\gamma$ Sagittæ	3.7		54	18.589	78.8	+ 2.6674+	.0002	+ .001	+ .0042	0	.04	.20	.07
5119	Grw <sub>45</sub> 1789	6.0		54	21.106	88.4	+ 3.2646-	.0061	-.003	-.0193+	2	.10	.58	.16
5120	Pi 339	8.6		54	30.675	87.2	+ 3.5260-	.0110	-.006	+ .0003	0	.15	.78	.23
5121	Groomb 2989	6.9		54	34.439	64.3	+ 2.0165+	.0009	+ .001	-.0001	0	.16	.64	.34
5122	Pulk <sub>85</sub> 2861	5.6		54	40.042	89.1	+ 2.3780+	.0014	+ .002	+ .0023	0	.12	.64	.18
5123	Br 2553	5.8		54	53.093	67.6	+ 2.5737+	.0006	+ .001	-.0053	0	.12	.45	.22
5124	Pi 351	6.2		55	27.381	80.2	+ 3.5709-	.0119	-.006	+ .0014	0	.10	.48	.18
5125	Br 2555	5.8		55	32.343	69.1	+ 2.7089	.0000	+ .001	-.0002	0	.09	.27	.15
5126	Groomb 3001	6.0		56	12.089	62.2	+ 1.8870+	.0003	+ .001	+ .0035	0	.16	.70	.38
5127	Br 2557	5.4		56	15.147	56.9	+ 2.1995+	.0014	+ .002	+ .0001	0	.13	.45	.27
5128	Br 2551	5.8		56	22.522	79.7	+ 3.3639-	.0081	-.004	+ .0022	0	.07	.33	.12
5129	Br 2549	4.6		56	30.632	78.2	+ 3.6955-	.0148	-.009	+ .0027	0	.04	.22	.09
5130	Groomb 3004	6.2		56	36.397	62.2	+ 1.5923-	.0024	-.002	+ .0022	0	.11	.39	.22
5131	L 8310	4.8		56	54.942	88.4	+ 3.9971-	.0223	-.013	+ .0064+	1	.11	.66	.18
5132	Br 2558	4.9		56	58.913	71.7	+ 2.4698+	.0012	+ .001	+ .0039	0	.08	.33	.15
5133	Br 2559	6.0		57	30.472	74.8	+ 2.5415+	.0009	+ .001	+ .0005	0	.10	.44	.18
5134	Br 2561	5.5		57	46.886	62.9	+ 2.5440+	.0009	+ .001	+ .0059	0	.13	.51	.27
5135	Pi 369	6.9		57	48.795	81.8	+ 3.5606-	.0121	-.006	-.0027	0	.08	.54	.17
5136	L 8322	5.2		57	59.187	76.5	+ 3.8115-	.0178	-.009	+ .0028	0	.10	.52	.20
5137	Br 2570	5.3		58	31.829	71.6	+ 1.6983-	.0013	-.001	+ .0019	0	.09	.27	.14
5138	$\delta$ Pavonis	3.6		58	55.002	77.5	+ 5.9258-	.0933	-.060	+ .1924+	24	.09	.52	.20
5139	Br 2565	5.6		58	55.477	81.4	+ 2.7456-	.0003	+ .001	+ .0006	0	.10	.45	.17
5140	Groomb 3402	8.5		59	0.77	82.1	- 53.181-	- 25.977		+ .356-	- 386	.07	.45	.15
5141	Pi 377	7.4		59	5.072	81.3	+ 3.5355-	.0116	-.006	+ .0040	0	.11	.62	.21
5142	Br 2562	6.0		59	14.068	64.4	+ 3.0918-	.0039	-.001	-.0005+	1	.13	.46	.25
5143	$\tau$ Aquilæ	5.9		59	15.267	77.4	+ 2.9309-	.0020	.000	+ .0009	0	.06	.33	.12
5144	Pulk <sub>85</sub> 2884	5.9		59	30.711	77.3	+ 2.4647+	.0024	+ .002	+ .0515+	5	.10	.87	.30
5145	Br 2560	6.7		59	34.121	67.8	+ 3.3155-	.0075	-.003	-.0006	0	.12	.48	.24
5146	Br 2568	5.9		59	36.663	68.3	+ 2.6945+	.0003	+ .001	-.0281+	2	.08	.27	.14
5147	$\xi$ Telescopii	5.1		59	43.545	87.9	+ 4.6160-	.0443	-.025	-.0027	0	.15	.75	.22
5148	Br 2563	6.6	19	59	52.777	65.4	+ 3.3387-	.0078	-.004	+ .0002	0	.13	.42	.23
5149	Br 2578	5.6	20	0	25.101	68.6	+ 0.6454-	.0209	-.014	+ .0014	0	.06	.24	.12
5150	Pulk <sub>85</sub> 2887	5.9	20	0	40.901	88.3	+ 2.3521+	.0015	+ .002	-.0001	0	.12	.63	.18

5121 O $\Sigma$  7<sup>m</sup>0-9<sup>m</sup>0. 0<sup>h</sup>3 306°; AC =  $\Sigma$  2607. 8<sup>m</sup>8 3<sup>h</sup>2 291°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
5101	-15 45 24.56	70.4	+ 9.343+ .434	-.12	-.090 0	.08	.36	.17	61 Sagittarii g
5102	+38 13 14.46	71.1	+ 9.424+ .272	-.04	-.010 0	.09	.30	.14	22 Cygni
5103	+34 49 2.84	73.0	+ 9.415+ .285	-.05	-.039 0	.08	.35	.15	
5104	-26 27 58.80	76.0	+ 9.507+ .466	-.14	+ .029 0	.09	.35	.15	60 Sagittarii A
5105	+52 10 23.97	77.8	+ 9.461+ .195	-.03	-.031- 1	.04	.20	.08	$\Sigma$ 2605. 7 <sup>m</sup> 5 3" 181°
5106	+60 33 29.36	72.7	+ 9.486+ .122	-.03	-.010 0	.10	.47	.20	
5107	+16 31 10.67	54.4	+ 9.516+ .346	-.07	+ .011 0	.13	.49	.30	11 Sagittæ
5108	-35 32 48.52	82.7	+ 9.462+ .499	-.17	-.044 0	.11	.65	.21	256 G Sagittarii $\theta^1$
5109	-59 38 54.45	86.4	+ 9.473+ .649	-.35	-.040 0	.16	.75	.24	85 G Pavonis
5110	-34 58 1.68	74.8	+ 9.438+ .498	-.17	-.079+ 1	.15	.73	.30	257 G Sagittarii $\theta^2$
5111	-22 28 56.13	78.1	+ 9.549+ .452	-.13	+ .011 0	.15	.73	.28	261 G Sagittarii
5112	-45 23 9.25	82.0	+ 9.525+ .543	-.22	-.019 0	.15	.79	.27	259 G Sagittarii
5113	+40 5 56.06	57.2	+ 9.546+ .264	-.04	-.001 0	.12	.53	.30	
5114	+64 27 18.40	80.6	+ 9.551+ .075	-.05	-.001 0	.10	.58	.20	
5115	-33 58 3.89	89.0	+ 9.247+ .494	-.17	-.310+ 1	.18	1.26	.32	262 G Sagittarii
5116	+58 34 43.20	55.8	+ 9.543+ .143	-.03	-.024 0	.08	.23	.15	
5117	+50 38 0.18	57.9	+ 9.567+ .206	-.04	.000 0	.13	.49	.29	
5118	+19 13 13.01	76.5	+ 9.605+ .338	-.07	+ .016 0	.04	.20	.08	
5119	-10 13 10.22	83.8	+ 9.198+ .411	-.11	-.395- 2	.09	.46	.15	
5120	-21 7 47.53	83.6	+ 9.600+ .447	-.13	-.005 0	.14	.61	.21	
5121	+41 59 25.34	60.3	+ 9.595+ .254	-.04	-.015 0	.12	.45	.25	*
5122	+30 42 44.17	85.4	+ 9.608+ .300	-.05	-.009 0	.12	.53	.18	
5123	+22 49 44.25	69.5	+ 9.646+ .324	-.06	+ .012- 1	.09	.37	.18	14 Vulpeculæ
5124	-23 0 44.13	82.2	+ 9.656+ .452	-.14	-.021 0	.10	.51	.17	264 G Sagittarii
5125	+17 14 34.88	64.8	+ 9.669+ .342	-.07	-.015 0	.09	.26	.15	13 Sagittæ
5126	+45 29 57.14	56.6	+ 9.712+ .237	-.04	-.022 0	.14	.57	.33	
5127	+36 46 6.90	57.7	+ 9.749+ .276	-.05	+ .011 0	.12	.54	.31	25 Cygni
5128	-13 54 51.26	76.7	+ 9.767+ .425	-.12	+ .019 0	.08	.35	.14	63 Sagittarii
5129	-27 59 16.63	81.2	+ 9.768+ .467	-.16	+ .010 0	.05	.26	.09	62 Sagittarii c
5130	+51 46 53.43	66.0	+ 9.768+ .199	-.03	+ .003 0	.10	.42	.21	
5131	-38 13 2.24	83.8	+ 9.697+ .505	-.20	-.092+ 1	.12	.54	.19	268 G Sagittarii
5132	+27 28 37.16	69.8	+ 9.800+ .310	-.05	+ .006 0	.08	.32	.15	15 Vulpeculæ
5133	+24 31 21.92	72.6	+ 9.828+ .319	-.06	-.006 0	.08	.35	.16	
5134	+24 39 27.89	62.2	+ 9.914+ .319	-.06	+ .059+ 1	.11	.49	.26	16 Vulpeculæ
5135	-22 52 34.78	84.9	+ 9.882+ .448	-.15	+ .025 0	.08	.51	.15	269 G Sagittarii
5136	-32 20 12.83	76.4	+ 9.867+ .480	-.17	-.003 0	.10	.51	.20	270 G Sagittarii
5137	+49 49 34.07	60.9	+ 9.910+ .211	-.04	-.002 0	.08	.22	.13	26 Cygni e *
5138	-66 26 12.15	79.8	+ 8.795+ .772	-.51	-1.146+ 26	.08	.45	.16	
5139	+15 45 1.64	76.4	+ 9.934+ .343	-.07	-.008 0	.09	.36	.15	14 Sagittæ
5140	+88 49 32.94	76.8	+ 10.041- 6.690		+ .092+ 45	.08	.46	.17	
5141	-21 35 44.82	79.4	+ 9.939+ .444	-.14	-.015 0	.11	.56	.20	273 G Sagittarii
5142	-0 59 18.03	66.4	+ 9.846+ .387	-.10	-.119 0	.10	.40	.20	62 Aquilæ
5143	+6 59 44.31	73.5	+ 9.988+ .367	-.09	+ .021 0	.06	.30	.12	
5144	+29 37 47.01	76.6	+ 9.458+ .314	-.05	-.528+ 6	.10	.73	.26	
5145	-11 52 56.51	68.3	+ 9.978+ .415	-.12	-.013 0	.11	.38	.19	64 Sagittarii
5146	+16 47 56.87	66.4	+ 9.581+ .333	-.07	-.413- 4	.07	.28	.14	15 Sagittæ
5147	-53 10 1.35	87.2	+ 10.002+ .579	-.29	-.001 0	.12	.67	.19	
5148	-12 56 52.12	72.6	+ 9.970+ .417	-.13	-.044 0	.11	.48	.21	65 Sagittarii
5149	+64 32 27.10	67.5	+ 10.043+ .077	-.05	-.012 0	.06	.20	.10	64 Draconis e
5150	+31 56 5.72	84.7	+ 10.063+ .292	-.05	-.012 0	.12	.51	.18	h 1471. 11 <sup>m</sup> 29" 4°

5137 W. H. 8<sup>m</sup> 5 42" 147°; BC: 12<sup>m</sup> 9" 75°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
5151	$\eta$ Sagittæ	5.2	20	0	43.354	71.2	+2.6602+.0002	+ .001	+ .0016 0	.10	.27	.14
5152	Br 2580	6.7		1	13.669	80.2	+0.6764-.0204	-.014	+ .0071 0	.11	.44	.17
5153	$\rho$ Draconis	4.7		2	22.179	69.7	+0.2857-.0330	-.022	+ .0029- 2	.06	.27	.13
5154	Br 2604	6.6		2	25.209	67.2	-1.6177-.1278	-.087	- .0061+ 4	.08	.30	.15
5155	Pi 402	7.3		2	26.426	80.3	+3.4729-.0106	-.005	+ .0024 0	.15	.78	.28
5156	Br 2572	5.1		2	35.566	69.2	+2.5771+.0008	+ .001	+ .0005 0	.08	.33	.16
5157	Br 2573	5.7		2	38.876	70.6	+2.2274+.0022	+ .002	- .0190+ 3	.08	.26	.13
5158	Paris 27500	7.1		2	46.355	91.6	+3.2156-.0059	-.002	+ .0011 0	.07	.70	.15
5159	Br 2571	6.5		2	51.995	65.2	+3.0987-.0040	-.001	+ .0070 0	.10	.34	.19
5160	Pi 406	6.4		3	3.290	66.8	+3.2821-.0071	-.003	.0000 0	.15	.58	.29
5161	Groomb 3041	6.4		3	5.151	73.6	+1.3660-.0059	-.004	- .0006- 1	.10	.62	.24
5162	Groomb 3051	6.5		3	29.280	73.2	+0.7632-.0187	-.012	+ .0019- 1	.12	.54	.23
5163	Groomb 3042	5.9		3	35.840	74.3	+1.5819-.0034	-.002	+ .0242+ 2	.08	.46	.18
5164	Pi 410	7.6		3	42.860	74.9	+3.5122-.0115	-.005	+ .0025 0	.15	.70	.29
5165	Br 2586	5.7		3	57.455	63.2	+0.9618-.0140	-.009	+ .0177 0	.08	.27	.15
5166	L 8362	5.5		4	37.789	82.4	+3.9501-.0194	-.011	+ .0360+ 13	.09	.51	.17
5167	Pi 13	7.8		5	27.969	83.6	+2.6431+.0005	+ .001	- .0003 0	.13	.50	.18
5168	Pulk <sub>75</sub> 4483	8.3		5	31.382	92.7	+2.6466+.0004	+ .001	+ .0036- 1	.14	1.10	.24
5169	Br 2579	7.0		5	31.860	77.3	+2.6470+.0004	+ .001	+ .0039 0	.10	.27	.13
5170	Br 2582	5.0		5	42.770	72.9	+2.2269+.0016	+ .002	- .0004 0	.08	.38	.16
5171	$\theta$ Aquilæ	3.2		6	8.746	74.6	+3.0967-.0042	-.001	+ .0021 0	.03	.18	.07
5172	Pi 12	7.5		6	10.717	72.2	+3.0814-.0040	-.001	+ .0007 0	.16	.63	.29
5173	Br 2583	5.6		6	22.988	52.1	+2.5021+.0012	+ .002	.0000 0	.15	.46	.31
5174	Br 2575	6.8		6	25.434	63.9	+3.3276-.0081	-.003	- .0010 0	.12	.44	.23
5175	L 8367	6.0		6	44.203	91.6	+4.5702-.0452	-.023	+ .0026+ 1	.20	1.04	.27
5176	Br 2577	6.2		6	51.590	65.7	+3.3457-.0081	-.003	+ .0128+ 1	.10	.34	.18
5177	Br 2585	5.9		7	37.247	72.7	+2.5069+.0013	+ .002	+ .0005 0	.10	.38	.17
5178	Br 2588	6.0		7	49.070	65.7	+2.5146+.0012	+ .002	- .0003 0	.11	.51	.25
5179	Br 2584	5.7		8	4.051	62.4	+3.0994-.0043	-.001	+ .0012 0	.15	.39	.24
5180	Pi 29	5.9		9	3.169	81.7	+3.7497-.0159	-.006	+ .0933- 1	.08	.50	.16
5181	L 8386	6.7		9	37.946	78.4	+3.7353-.0177	-.007	+ .0034 0	.10	.66	.23
5182	$\rho$ Aquilæ	5.0		9	38.982	70.9	+2.7759-.0005	+ .001	+ .0036 0	.07	.28	.13
5183	Groomb 3087	6.5		9	44.838	64.4	+1.6706-.0016	-.001	- .0007 0	.11	.52	.27
5184	Br 2610	5.9		9	56.721	70.3	+0.9908-.0142	-.010	+ .0188 0	.10	.46	.21
5185	Br 2594	5.4	10		7.974	66.5	+2.4638+.0015	+ .002	+ .0005 0	.14	.57	.28
5186	$\alpha^1$ Cygni	4.9	10		9.448	68.4	+1.8860+.0004	+ .002	+ .0014 0	.09	.44	.20
5187	$\alpha^2$ Cygni	3.9	10		28.958	73.6	+1.8889+.0004	+ .002	+ .0002 0	.04	.27	.11
5188	Br 2598	5.0	10		47.333	78.6	+2.2455+.0017	+ .003	+ .0054 0	.08	.32	.12
5189	Br 2589	6.8	10		50.645	58.2	+3.3248-.0083	-.003	+ .0002 0	.13	.38	.24
5190	Pulk <sub>65</sub> 2920	4.9	11		1.618	87.0	+2.5412+.0012	+ .002	- .0002 0	.12	.57	.18
5191	Br 2611	4.4	11		4.405	75.6	+1.3970-.0058	-.003	+ .0073- 1	.06	.24	.10
5192	Br 2596	5.5	11		11.063	88.4	+2.5901+.0009	+ .002	- .0007 0	.13	.44	.16
5193	Pulk <sub>65</sub> 2925	6.0	11		30.752	91.7	+2.3279+.0020	+ .003	- .0036+ 1	.13	.66	.18
5194	Br 2615	6.2	11		37.415	76.6	+1.1085-.0114	-.007	+ .0061- 1	.10	.42	.17
5195	Br 2602	4.8	11		37.479	76.5	+2.4849+.0014	+ .002	- .0032 0	.09	.40	.16
5196	Br 2600	6.3	11		56.127	83.6	+2.6355+.0007	+ .002	+ .0001 0	.13	.39	.16
5197	$\alpha^1$ Capricorni	4.5	12		6.353	67.2	+3.3283-.0085	-.003	+ .0010 0	.03	.15	.07
5198	Br 2591	6.1	12		8.942	81.0	+3.5300-.0128	-.004	+ .0023 0	.08	.38	.13
5199	$\kappa$ Cephei	4.4	12		15.767	73.7	-1.9388-.1676	- .139	+ .0038- 2	.03	.20	.08
5200	Br 2612	4.2	20	12	22.854	65.6	+1.8549+.0001	+ .001	+ .0005 0	.10	.38	.19

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta \text{Ep. } 100 \mu' \delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
5151	+19 42 15.33	72.8	+10.158+.331	-.07	+.080 0	.10	.30	.15	65 Draconis
5152	+64 21 6.89	69.2	+10.126+.082	-.05	+.010+ 1	.09	.27	.14	
5153	+67 35 18.02	62.6	+10.250+.032	-.07	+.048 0	.05	.18	.10	69 Draconis
5154	+76 12 8.84	65.5	+10.152-.208	-.29	-.055- 1	.08	.25	.13	
5155	-19 5 35.36	79.0	+10.205+.432	-.14	-.003 0	.12	.57	.21	17 Vulpeculæ 27 Cygni $b^1$
5156	+23 19 33.47	70.1	+10.216+.319	-.06	-.003 0	.06	.30	.14	
5157	+35 41 48.35	68.8	+ 9.785+.272	-.05	-.438- 2	.07	.26	.13	64 Aquilæ
5158	- 7 3 2.44	91.2	+10.216+.399	-.11	-.017 0	.08	.69	.15	
5159	- 0 57 57.99	67.9	+10.171+.385	-.10	-.069+ 1	.09	.35	.17	2640. 10 <sup>M</sup> 5" 21°, v. slow
5160	-10 21 7.93	69.0	+10.216+.407	-.12	-.038 0	.12	.51	.24	
5161	+56 3 7.13	68.2	+10.334+.166	-.03	+.078 0	.09	.45	.21	66 Draconis
5162	+63 36 8.04	64.2	+10.332+.091	-.05	+.046 0	.12	.39	.22	
5163	+52 52 11.54	73.9	+10.547+.196	-.03	+.252+ 3	.08	.40	.16	279 G Sagittarii *
5164	-20 53 2.23	73.4	+10.222+.435	-.14	-.081 0	.14	.56	.25	
5165	+61 42 18.28	57.8	+10.394+.118	-.04	+.072+ 2	.06	.19	.12	2637. 78" 224° AB 2637. 12" 328° AC 17 Sagittæ ( $\theta^1$ ) A 28 Cygni $b^2$
5166	-36 21 8.80	78.4	+ 8.807+.493	-.19	-1.565+5	.09	.51	.19	
5167	+20 36 7.31	80.4	+10.425+.324	-.07	-.010 0	.11	.54	.19	W. H. 8 <sup>M</sup> 55" 206°
5168	+20 37 13.80	87.4	+10.551+.325	-.07	+.112 0	.13	1.02	.27	
5169	+20 37 3.92	69.1	+10.535+.326	-.07	+.096 0	.08	.25	.13	18 Vulpeculæ 1 Capricorni $\xi^1$ 81 G Telescopii
5170	+36 32 41.97	70.4	+10.462+.272	-.05	+.009 0	.07	.31	.14	
5171	- 1 7 5.73	75.5	+10.488+.381	-.10	+.003 0	.03	.18	.07	2 Capricorni $\xi^2$
5172	- 0 25 20.04	65.7	+10.475+.378	-.10	-.013 0	.11	.40	.21	
5173	+26 36 26.53	55.0	+10.496+.306	-.06	-.007 0	.11	.49	.29	19 Vulpeculæ 20 Vulpeculæ 66 Aquilæ 5 G Capricorni
5174	-12 41 22.56	64.0	+10.482+.409	-.13	-.024 0	.10	.38	.20	
5175	-52 44 40.58	84.5	+10.479+.563	-.30	-.050 0	.15	.65	.22	282 G Sagittarii
5176	-12 54 38.10	72.2	+10.345+.412	-.13	-.193+ 2	.08	.35	.16	
5177	+26 30 37.75	71.3	+10.576+.306	-.06	-.019 0	.08	.34	.16	Clark. 11 <sup>M</sup> 4" 81°
5178	+26 10 47.80	62.6	+10.594+.307	-.06	-.016 0	.11	.51	.27	
5179	- 1 18 32.75	64.2	+10.604+.378	-.10	-.024 0	.11	.40	.21	68 Draconis 21 Vulpeculæ
5180	-27 19 53.66	82.5	+10.509+.470	-.16	-.192+12	.09	.50	.16	
5181	-30 18 37.84	78.0	+10.731+.456	-.17	-.013 0	.11	.80	.28	Br 2601. 30 Cygni 2 App. 107" 174° 29 Cygni $b^3$ 3 Capricorni 983. 10 <sup>M</sup> 1" 151°
5182	+14 53 33.70	69.5	+10.796+.337	-.07	+.051 0	.06	.26	.12	
5183	+51 9 44.50	65.5	+10.728+.201	-.04	-.024 0	.10	.47	.23	33 Cygni 22 Vulpeculæ
5184	+61 46 32.38	63.7	+10.847+.120	-.04	+.080+ 2	.08	.29	.16	
5185	+28 23 29.82	63.2	+10.756+.298	-.06	-.025 0	.12	.52	.27	23 Vulpeculæ
5186	+46 30 46.45	64.5	+10.774+.227	-.04	-.009 0	.07	.27	.14	
5187	+46 26 16.25	73.4	+10.808+.227	-.04	+.001 0	.04	.20	.08	18 Sagittæ h 607. 9 <sup>M</sup> 45" 221° 4 Capricorni 2675. 8 <sup>M</sup> 7" 123° 32 Cygni
5188	+36 29 59.04	72.5	+10.897+.272	-.05	+.068+ 1	.07	.27	.12	
5189	-12 38 35.96	66.1	+10.818+.404	-.13	-.015 0	.12	.39	.21	
5190	+25 17 11.29	81.2	+10.845+.307	-.07	-.002 0	.10	.47	.17	
5191	+56 15 42.07	66.7	+10.932+.168	-.03	+.082+ 1	.06	.20	.10	
5192	+23 12 10.86	79.0	+10.845+.313	-.07	-.013 0	.12	.35	.16	
5193	+33 25 33.61	86.6	+10.758+.281	-.05	-.124 0	.12	.51	.17	
5194	+60 20 4.57	75.1	+10.948+.132	-.04	+.057+ 1	.10	.36	.16	
5195	+27 30 26.13	74.1	+10.897+.299	-.06	+.006 0	.07	.33	.14	
5196	+21 17 29.99	80.2	+10.883+.318	-.07	-.031 0	.12	.36	.16	
5197	-12 49 2.55	66.3	+10.932+.402	-.13	+.006 0	.04	.16	.08	
5198	-22 7 8.13	82.7	+10.895+.427	-.15	-.034 0	.07	.35	.12	
5199	+77 24 37.15	72.8	+10.964-.241	-.38	+.026 0	.03	.19	.08	
5200	+47 24 24.80	52.0	+10.948+.222	-.04	+.002 0	.10	.29	.20	

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
5201	Br 2606	5.7	20 12 30.332	87.7	+ 2.5668+.0011	+ .002	+ .0013 0	.05	.42	.10
5202	$\alpha^2$ Capricorni	3.7	12 30.422	65.8	+ 3.3318-.0085	-.003	+ .0040 0	.03	.13	.06
5203	Groomb 3110	6.1	12 46.128	71.8	+ 1.9434+.0009	+ .002	+ .0002+ 1	.14	.63	.28
5204	Br 2620	7.6	12 58.811	71.0	+ 0.7285-.0213	-.015	-.0049- 2	.14	.50	.24
5205	Br 2613	5.7	13 21.792	71.5	+ 2.1338+.0017	+ .002	+ .0002 0	.10	.42	.19
5206	$\sigma$ Capricorni	5.5	13 37.479	73.7	+ 3.4663-.0115	-.004	+ .0004 0	.08	.27	.12
5207	Groomb 3212	7.1	13 59.68	79.6	- 8.256- 1.061		-.008+ 20	.10	.40	.16
5208	Br 2614	5.1	14 6.031	79.8	+ 2.2096+.0019	+ .002	-.0010 0	.09	.38	.15
5209	L 8400	6.7	14 25.347	95.4	+ 4.3721-.0408	-.016	-.0413+ 6	.16	1.22	.24
5210	Br 2618	6.2	14 34.445	62.7	+ 2.1251+.0017	+ .002	+ .0003 0	.12	.56	.29
5211	Br 2617	5.8	14 43.801	59.8	+ 2.2467+.0019	+ .002	+ .0029 0	.20	.54	.33
5212	Abo 465	7.8	14 43.849	86.4	+ 3.0912-.0044	.000	+ .0002 0	.10	.46	.15
5213	Br 2616	5.3	14 48.672	72.1	+ 2.3045+.0019	+ .003	+ .0012 0	.12	.46	.21
5214	$\nu$ Capricorni	4.9	15 7.052	61.0	+ 3.3308-.0087	-.002	+ .0005 0	.12	.36	.22
5215	Br 2607	6.7	15 9.493	66.8	+ 3.3749-.0096	-.002	+ .0029 0	.07	.30	.15
5216	$\beta$ Capricorni	3.2	15 23.622	69.7	+ 3.3742-.0096	-.002	+ .0024 0	.04	.20	.09
5217	L 8415	5.8	15 40.257	89.6	+ 4.0897-.0297	-.011	+ .0059+ 1	.13	.96	.24
5218	Groomb 3142	6.2	15 56.595	55.2	+ 1.4840-.0043	-.002	-.0008 0	.16	.68	.40
5219	Groomb 3150	6.2	16 32.406	74.2	+ 0.6035-.0285	-.021	+ .0792 0	.08	.52	.20
5220	Groomb 3140	6.5	16 37.741	65.9	+ 2.1733+.0019	+ .002	-.0007 0	.10	.56	.27
5221	L 8331	6.0	16 38.905	76.6	+ 10.2856-.6305	-.014	-.0082+ 5	.11	.68	.25
5222	L 8417	5.8	17 5.332	87.7	+ 4.0920-.0305	-.011	-.0010 0	.15	.99	.27
5223	$\alpha$ Pavonis	1.8	17 44.329	66.5	+ 4.7738-.0595	-.020	+ .0005+ 2	.06	.33	.16
5224	Br 2622	5.7	17 45.428	56.2	+ 2.5778+.0012	+ .002	-.0009 0	.13	.44	.27
5225	Br 2628	5.8	17 56.614	67.6	+ 1.0069-.0144	-.010	+ .0011- 1	.10	.33	.17
5226	Pulk <sub>ss</sub> 2949	5.5	18 13.406	70.0	+ 2.9736-.0027	+ .001	-.0020 0	.11	.82	.35
5227	L 8427	7.3	18 34.223	79.1	+ 3.6926-.0178	-.005	+ .0007 0	.10	.57	.20
5228	L 8430	7.3	18 36.361	83.8	+ 3.6150-.0157	-.004	+ .0027 0	.11	.57	.19
5229	$\gamma$ Cygni	2.2	18 38.355	75.6	+ 2.1521+.0019	+ .002	+ .0001 0	.03	.12	.05
5230	Groomb 3151	5.9	18 49.546	69.8	+ 1.9586+.0009	+ .002	+ .0032 0	.13	.66	.30
5231	Groomb 3154	6.3	19 12.364	65.4	+ 2.1290+.0019	+ .002	+ .0008 0	.15	.63	.32
5232	L 8433	6.2	19 19.546	86.0	+ 3.6810-.0177	-.005	+ .0009 0	.10	.75	.21
5233	Pi 116	6.4	19 31.808	76.4	+ 3.0583-.0040	.000	+ .0002 0	.14	.57	.24
5234	Br 2636	6.0	19 39.481	79.9	+ 0.2851-.0388	-.030	+ .0035- 1	.07	.39	.14
5235	Br 2625	4.7	19 51.994	77.3	+ 2.3947+.0020	+ .003	+ .0032 0	.10	.33	.15
5236	Pulk <sub>ss</sub> 2957	6.0	19 59.917	89.2	+ 2.2426+.0021	+ .003	-.0002 0	.12	.64	.18
5237	L 8438 <i>m</i>	6.5	20 24.374	87.6	+ 3.8974-.0248	-.008	-.0208+ 2	.10	.64	.17
5238	Pulk <sub>ss</sub> 2959	5.9	21 15.230	88.5	+ 2.6523+.0008	+ .002	+ .0004 0	.12	.60	.18
5239	L 8360	6.0	21 24.752	79.4	+ 10.4723-.6892	+ .106	-.0057+ 7	.08	.92	.29
5240	$\pi$ Capricorni	5.3	21 35.879	75.7	+ 3.4384-.0116	-.003	+ .0007 0	.04	.22	.09
5241	L 8457	6.9	22 1.653	85.6	+ 3.6020-.0159	-.004	+ .0005 0	.15	1.05	.30
5242	Pi 140	7.0	22 16.315	76.0	+ 3.1131-.0050	.000	-.0054 0	.15	.68	.27
5243	L 8453	6.4	22 21.841	82.4	+ 3.8611-.0236	-.007	+ .0013 0	.14	.81	.27
5244	$\rho$ Capricorni	5.1	23 9.455	71.7	+ 3.4266-.0115	-.003	-.0010 0	.03	.22	.09
5245	Br 2629	6.2	23 10.743	72.1	+ 3.1441-.0055	-.001	+ .0019 0	.12	.44	.20
5246	Pi 145	7.2	23 17.431	73.1	+ 3.4202-.0113	-.003	+ .0007 0	.14	.56	.25
5247	Br 2627	7.1	23 18.088	71.1	+ 3.4315-.0114	-.003	+ .0028+ 1	.09	.50	.21
5248	Pi 146	6.5	23 39.357	79.9	+ 3.5265-.0140	-.003	+ .0009 0	.09	.45	.16
5249	Br 2634	5.8	23 51.962	68.3	+ 2.2222+.0023	+ .003	-.0016 0	.12	.52	.25
5250	Groomb 3191	6.7	20 23 58.613	54.4	+ 1.4532-.0051	-.003	+ .0027 0	.13	.51	.31

5202 h 608. 11<sup>M</sup> 8" 149°; BC: 11<sup>M</sup> 3-11<sup>M</sup> 5 1" 240°.  
5217 h 5190. 13<sup>M</sup> 30" 307°.

5215 Barnard. 11<sup>M</sup> 1" 105°.  
5222  $\beta$  763. 8<sup>M</sup> 1" 213°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" " "		" "	"	"	"	"	"	
5201	+24 21 46.21	81.4	+10.935+ .309	-.07	-.020 0	.06	.31	.11	24 Vulpeculæ
5202	-12 51 17.78	63.6	+10.961+ .403	-.13	+.005 0	.03	.13	.06	*
5203	+45 16 22.02	66.0	+10.917+ .232	-.04	-.058 0	.13	.54	.27	
5204	+64 27 27.09	65.6	+11.032+ .084	-.05	+.042- 1	.13	.43	.23	
5205	+40 3 19.20	70.0	+11.006+ .255	-.05	-.012 0	.09	.41	.19	$\beta$ 661. 12 <sup>m</sup> 13" 66°
5206	-19 25 50.80	65.7	+11.028+ .417	-.15	-.009 0	.08	.25	.14	W. H. 9 <sup>m</sup> 56" 178°
5207	+84 22 38.07	75.2	+11.022- 1.009		-.042- 1	.11	.37	.17	
5208	+37 43 18.33	77.0	+11.061+ .264	-.05	-.011 0	.09	.35	.15	P Cygni. Nova 1600?
5209	-50 18 29.40	92.5	+10.837+ .521	-.28	-.258- 5	.13	.81	.19	86 G Telescopii
5210	+40 25 11.95	50.9	+11.095+ .253	-.05	-.011 0	.12	.39	.26	$\Sigma$ 2666. 8 <sup>m</sup> 4 2" 8 245°
5211	+36 41 12.12	57.1	+11.147+ .268	-.05	+.029 0	.14	.56	.33	36 Cygni
5212	-0 57 35.35	81.0	+11.118+ .370	-.11	+.001 0	.09	.37	.14	
5213	+34 40 12.04	72.0	+11.117+ .275	-.05	-.007 0	.09	.43	.19	35 Cygni
5214	-13 4 26.08	61.4	+11.129+ .399	-.14	-.017 0	.10	.34	.19	
5215	-15 6 1.06	71.3	+11.151+ .404	-.14	+.002 0	.08	.34	.15	$\beta$ 1 Capricorni *
5216	-15 5 50.36	71.2	+11.167+ .404	-.14	+.001 0	.04	.20	.09	
5217	-42 21 53.32	86.7	+11.082+ .491	-.23	-.104+ 1	.11	.71	.20	292 G Sagittarii $\kappa$ 1 *
5218	+55 5 3.37	46.2	+11.186+ .175	-.03	-.020 0	.12	.51	.35	$\Sigma$ 2671. 7 <sup>m</sup> 5 3" 339°
5219	+66 31 55.51	74.7	+11.542+ .077	-.06	+.293+ 9	.08	.45	.18	
5220	+39 5 15.55	61.4	+11.236+ .257	-.05	-.020 0	.09	.45	.24	$\Sigma$ 2668. 9 <sup>m</sup> 2 3" 288°
5221	-81 17 37.20	78.0	+11.249+ 1.235	-2.34	-.008- 1	.10	.60	.22	47 G Octantis
5222	-42 44 38.55	84.2	+11.298+ .488	-.24	+.009 0	.13	.77	.24	294 G Sagittarii $\kappa$ 2 *
5223	-57 3 19.74	69.4	+11.250+ .569	-.36	-.086 0	.06	.32	.14	
5224	+24 7 36.88	60.1	+11.324+ .305	-.07	-.013 0	.12	.47	.26	25 Vulpeculæ
5225	+61 56 23.34	56.1	+11.381+ .116	-.04	+.030 0	.09	.30	.19	71 Draconis
5226	+5 1 23.51	70.3	+11.326+ .352	-.10	-.045 0	.13	.71	.31	
5227	-29 23 56.96	79.0	+11.338+ .438	-.18	-.058 0	.11	.64	.23	
5228	-26 9 21.35	82.3	+11.372+ .429	-.17	-.026 0	.13	.67	.23	
5229	+39 56 10.96	71.4	+11.398+ .253	-.05	-.003 0	.03	.14	.06	
5230	+45 28 24.50	65.0	+11.446+ .230	-.04	+.032 0	.14	.55	.28	
5231	+40 42 21.23	60.2	+11.388+ .250	-.05	-.053 0	.12	.50	.28	
5232	-28 59 15.52	85.2	+11.455+ .436	-.18	+.005 0	.12	.85	.24	296 G Sagittarii
5233	+0 44 40.80	71.2	+11.472+ .361	-.11	+.007 0	.10	.35	.17	$\Sigma$ 2677. 10 <sup>m</sup> 5 33" 29°
5234	+68 33 37.51	76.3	+11.511+ .030	-.08	+.037 0	.07	.28	.12	
5235	+31 52 1.54	72.2	+11.487+ .282	-.06	-.002 0	.09	.29	.14	39 Cygni
5236	+37 9 11.90	85.5	+11.495+ .263	-.05	-.003 0	.12	.52	.18	
5237	-37 43 35.98	84.3	+11.407+ .457	-.21	-.120- 2	.10	.56	.18	297 G Sagittarii *
5238	+21 5 0.66	84.3	+11.572+ .310	-.08	-.016 0	.12	.50	.18	
5239	-81 37 36.80	79.9	+11.578+ 1.239	-2.51	-.021- 1	.07	.79	.25	49 G Octantis
5240	-18 32 22.98	74.7	+11.600+ .404	-.15	-.013 0	.05	.25	.10	Mitchel. 9 <sup>m</sup> 3" 145°
5241	-25 56 11.78	81.3	+11.669+ .423	-.17	+.026 0	.14	1.05	.33	18 G Capricorni
5242	-2 25 49.21	67.4	+11.595+ .364	-.11	-.066- 1	.12	.41	.21	South. 7 <sup>m</sup> 3 60" 190°
5243	-35 55 32.79	75.8	+11.639+ .453	-.20	-.028 0	.14	.73	.29	2 G Microscopii
5244	-18 8 39.73	70.6	+11.702+ .400	-.15	-.022 0	.04	.25	.10	W. H. 7 <sup>m</sup> 5 3" 172°
5245	-3 41 17.82	70.8	+11.705+ .367	-.12	-.020 0	.09	.35	.17	68 Aquilæ
5246	-17 45 56.78	76.1	+11.695+ .399	-.15	-.038 0	.14	.55	.23	
5247	-18 12 13.81	72.7	+11.604+ .401	-.15	-.130 0	.10	.47	.20	
5248	-22 43 23.43	83.2	+11.733+ .411	-.16	-.026 0	.08	.43	.14	24 G Capricorni
5249	+38 6 41.81	68.7	+11.703+ .257	-.05	-.071 0	.09	.39	.18	40 Cygni
5250	+56 18 31.71	52.0	+11.788+ .167	-.03	+.006 0	.10	.40	.25	$\Sigma$ 2687. 8 <sup>m</sup> 5 26" 118°

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		M	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
5251	Br 2639	5.9	20 23 58.938	60.7	+1.8336 .0000	+ .001	+ .0074 0	.07	.28	.16
5252	Br 2630	7.3	24 8.625	73.5	+3.4442-.0118	-.003	+ .0015 0	.12	.42	.19
5253	o Capricorni	6.1	24 9.954	71.2	+3.4437-.0118	-.003	+ .0011 0	.11	.34	.17
5254	Br 2633	5.1	24 25.439	70.1	+3.1373-.0054	.000	+ .0042 0	.10	.33	.16
5255	Br 2637	4.1	25 18.579	77.2	+2.4505+.0020	+ .003	+ .0007 0	.07	.33	.13
5256	Cape 4059	6.4	25 28.200	83.6	+3.3658-.0102	-.002	-.0028 0	.11	.50	.17
5257	Br 2635 <i>m</i>	6.1	25 30.675	55.1	+2.8728-.0014	+ .001	+ .0011 0	.14	.48	.30
5258	Br 2640	6.1	25 31.559	64.6	+2.2880+.0023	+ .003	+ .0009 0	.12	.48	.25
5259	Pi 177 <i>m</i>	7.8	26 25.488	73.7	+2.8638-.0013	+ .001	-.0015 0	.12	.68	.27
5260	Br 2638	7.3	26 26.542	68.9	+2.8653-.0013	+ .001	.0000 0	.12	.51	.24
5261	Br 2655	7.5	26 45.816	80.4	+0.3651-.0377	-.031	+ .0042 0	.10	.58	.20
5262	Pi 170	6.4	26 55.191	74.9	+3.5789-.0157	-.003	+ .0007 0	.08	.48	.19
5263	Pi 174	6.0	26 55.463	82.9	+3.2855-.0082	-.001	+ .0205-1	.06	.45	.14
5264	Pulkas 2978	6.0	26 57.253	83.1	+1.5009-.0044	-.002	+ .0005 0	.12	.52	.19
5265	$\omega$ Cygni	5.1	26 57.697	60.6	+1.8578+.0004	+ .001	+ .0009 0	.09	.33	.19
5266	$\nu$ Microscopii	5.3	27 2.877	86.8	+4.1389-.0349	-.009	+ .0013 0	.18	1.20	.33
5267	Br 2643	6.5	27 11.315	77.4	+2.2777+.0024	+ .003	+ .0001 0	.11	.46	.19
5268	$\phi$ Pavonis	4.8	27 18.059	86.3	+5.0029-.0771	-.015	+ .0071+3	.14	.80	.23
5269	Pi 199	6.8	27 47.760	61.0	+1.8489+.0003	+ .001	-.0001 0	.14	.48	.27
5270	$\theta$ Cephei	4.3	27 54.282	69.8	+1.0140-.0152	-.011	+ .0066+1	.03	.16	.08
5271	Br 2647	5.6	28 13.648	54.2	+1.8515+.0004	+ .001	+ .0010 0	.10	.34	.22
5272	$\epsilon$ Delphini	4.1	28 26.140	75.8	+2.8665-.0013	+ .001	+ .0006 0	.03	.18	.07
5273	Pi 187	6.4	28 37.741	75.4	+3.3442-.0099	-.002	+ .0050 0	.08	.45	.18
5274	$\rho$ Pavonis	5.0	29 12.405	85.0	+5.0678-.0828	-.015	+ .0067+1	.14	.78	.24
5275	$\eta$ Delphini	5.5	29 13.258	70.9	+2.8380-.0009	+ .002	+ .0049 0	.10	.38	.18
5276	Groomb 3221	6.5	29 19.885	64.2	+1.4679-.0049	-.002	-.0025 0	.14	.57	.29
5277	L 8435	6.3	29 42.021	84.3	+7.5576-.3031	+ .027	+ .0540-12	.12	.63	.20
5278	Pi 194	6.4	29 52.757	74.4	+3.3994-.0112	-.002	+ .0054 0	.11	.46	.20
5279	Br 2650	5.0	30 0.800	64.4	+2.3323+.0025	+ .003	-.0002 0	.12	.50	.25
5280	Br 2673	6.6	30 26.617	75.5	-0.2239-.0677	-.061	-.0002+1	.06	.32	.12
5281	$\alpha$ Indi	3.1	30 32.104	74.4	+4.2369-.0402	-.009	+ .0039-1	.09	.36	.16
5282	$\zeta$ Delphini	4.7	30 37.985	61.7	+2.8047-.0005	+ .003	+ .0026 0	.09	.36	.20
5283	Groomb 3226	5.8	30 38.407	62.2	+1.9660+.0014	+ .003	+ .0028 0	.15	.75	.39
5284	Br 2649	5.3	31 31.214	80.3	+3.1262-.0054	.000	+ .0005 0	.07	.39	.14
5285	Br 2646	7.2	31 44.801	69.9	+3.3691-.0106	-.002	+ .0046 0	.11	.45	.21
5286	L 8490	5.5	31 45.751	83.1	+5.0056-.0772	-.012	+ .0409+8	.18	.75	.27
5287	Br 2653	6.6	31 51.149	61.4	+2.5704+.0018	+ .003	+ .0014 0	.15	.52	.30
5288	$\nu$ Pavonis	5.4	32 46.798	74.5	+5.5620-.1200	-.009	+ .0016 0	.15	.57	.25
5289	Br 2660	5.8	32 48.682	78.8	+2.5586+.0018	+ .003	+ .0011 0	.09	.45	.17
5290	Br 2682	5.3	32 49.873	80.4	-0.7406-.1021	-.102	+ .0027+2	.04	.26	.09
5291	$\beta$ Delphini <i>m</i>	3.7	32 51.591	77.0	+2.8131-.0004	+ .003	+ .0074 0	.04	.20	.08
5292	$\iota$ Delphini	5.5	33 2.101	57.6	+2.8708-.0012	+ .002	+ .0030 0	.18	.57	.35
5293	Br 2701	7.1	33 9.253	79.9	-3.6044-.3970	-.542	+ .0178+6	.06	.39	.13
5294	Br 2654	4.5	33 10.448	70.6	+3.0998-.0049	+ .001	+ .0008 0	.11	.40	.19
5295	Br 2665	6.6	33 27.811	68.2	+2.4371+.0024	+ .004	-.0001 0	.10	.39	.20
5296	Br 2666	6.8	33 28.967	70.1	+2.4344+.0024	+ .004	-.0040 0	.10	.38	.18
5297	L 8509	7.6	33 28.974	93.7	+3.8509-.0253	-.006	+ .0065 0	.13	1.06	.22
5298	$\tau$ Capricorni	5.4	33 40.912	71.1	+3.3594-.0106	-.001	+ .0005 0	.06	.33	.14
5299	$\theta$ Delphini	6.1	34 0.789	62.1	+2.8310-.0007	+ .002	-.0006 0	.12	.50	.27
5300	Br 2659	6.6	20 34 1.114	76.0	+3.1228-.0054	.000	.0000 0	.12	.72	.27

5257  $\beta$  63.  $6^{\text{M}}2-8^{\text{M}}0$   $1''$   $345^{\circ}$ .5267 Clark.  $11^{\text{M}}2''$   $159^{\circ}$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 19			Remarks.
	" ' "		" "	"	"	"	"	"	
5251	+49 3 5.49	53.0	+11.839+.212	-.04	+.057+ 1	.06	.24	.15	43 Cygni $\omega^1$
5252	-18 55 2.84	79.0	+11.703+.401	-.15	-.090 0	.12	.59	.22	} W. H. 22" 240°
5253	-18 54 51.42	69.0	+11.709+.401	-.15	-.086 0	.10	.34	.17	
5254	- 3 13 5.82	71.8	+11.792+.365	-.12	-.021 0	.08	.30	.14	69 Aquilæ
5255	+30 2 4.79	76.8	+11.872+.283	-.06	-.004 0	.06	.29	.11	41 Cygni
5256	-15 23 26.34	82.5	+11.827+.390	-.14	-.060 0	.11	.55	.19	27 G Capricorni
5257	+10 33 39.27	60.6	+11.895+.332	-.09	+.005 0	.12	.45	.25	1 Delphini *
5258	+36 7 14.40	69.5	+11.883+.264	-.05	-.008 0	.09	.41	.19	42 Cygni
5259	+10 55 22.31	73.6	+11.948+.330	-.09	-.006 0	.11	.61	.25	} 02 407. 8 <sup>M</sup> 5-8 <sup>M</sup> 8 0"5 214° Σ 2690. 7 <sup>M</sup> 8 15" 256°
5260	+10 55 26.64	64.3	+11.959+.330	-.09	+.004 0	.10	.39	.20	
5261	+68 26 2.94	76.9	+11.990+.038	-.07	+.012 0	.09	.44	.17	
5262	-25 16 53.82	74.8	+11.935+.413	-.17	-.054 0	.08	.37	.15	28 G Capricorni
5263	-10 11 40.94	80.3	+12.081+.381	-.13	+.092+ 2	.07	.44	.15	β 668. 11 <sup>M</sup> 5" 26°
5264	+55 43 57.34	78.6	+12.007+.170	-.03	+.016 0	.10	.45	.17	
5265	+48 36 54.86	56.7	+11.996+.212	-.04	+.004 0	.09	.29	.18	45 Cygni $\omega^2$
5266	-44 51 18.18	83.6	+11.957+.478	-.26	-.041 0	.14	.91	.28	
5267	+36 35 55.01	74.8	+11.995+.261	-.05	-.013 0	.10	.43	.18	44 Cygni *
5268	-60 55 6.17	84.1	+11.848+.579	-.43	-.168+ 1	.11	.64	.20	L 8461. 104 G Pav $\phi^1$
5269	+48 52 33.23	53.1	+12.045+.210	-.04	-.005 0	.12	.45	.28	
5270	+62 39 28.31	71.0	+12.040+.114	-.04	-.018+ 1	.04	.15	.07	
5271	+48 52 57.26	47.5	+12.044+.210	-.04	-.036 0	.09	.29	.20	46 Cygni $\omega^3$
5272	+10 57 47.51	77.4	+12.069+.328	-.09	-.026 0	.03	.20	.07	
5273	-14 3 53.85	77.0	+12.166+.384	-.14	+.058+ 1	.08	.47	.18	
5274	-61 52 24.55	83.6	+12.086+.583	-.45	-.063+ 1	.12	.64	.21	
5275	+12 41 4.00	69.8	+12.176+.324	-.09	+.026+ 1	.09	.36	.17	
5276	+56 26 24.11	56.2	+12.153+.165	-.03	-.004 0	.13	.49	.29	
5277	-76 31 49.78	83.7	+12.175+.876	-1.20	-.008+ 6	.10	.58	.18	50 G Octantis $\mu^1$
5278	-16 52 9.72	76.6	+12.172+.389	-.15	-.023+ 1	.11	.49	.20	
5279	+34 54 29.27	65.3	+12.191+.264	-.05	-.014 0	.10	.43	.22	47 Cygni
5280	+72 11 34.18	75.0	+12.209-.031	-.13	-.025 0	.07	.27	.12	Groomb 3241
5281	-47 38 24.79	74.4	+12.302+.484	-.28	+.061 0	.08	.32	.14	
5282	+14 19 44.47	59.6	+12.252+.319	-.09	+.004 0	.09	.37	.21	
5283	+46 21 1.58	51.7	+12.245+.222	-.05	-.003 0	.15	.67	.42	
5284	- 2 53 47.26	74.7	+12.301+.355	-.12	-.008 0	.08	.33	.14	70 Aquilæ
5285	-15 29 38.01	71.5	+12.282+.383	-.15	-.043 0	.10	.37	.17	13 Capricorni $\tau^1$
5286	-60 53 0.11	81.8	+11.753+.575	-.43	-.573+ 5	.14	.65	.23	109 G Pavonis $\phi^2$
5287	+25 32 7.76	59.3	+12.334+.290	-.08	+.002 0	.12	.51	.29	26 Vulpeculæ
5288	-67 6 46.84	77.4	+12.380+.632	-.57	-.016 0	.12	.58	.22	
5289	+26 6 49.34	73.4	+12.383+.288	-.08	-.015 0	.08	.35	.15	27 Vulpeculæ
5290	+74 36 42.81	78.0	+12.386-.090	-.20	-.012 0	.04	.23	.09	73 Draconis
5291	+14 14 49.48	73.3	+12.364+.318	-.09	-.037+ 1	.04	.23	.10	*
5292	+11 1 42.12	54.4	+12.395+.324	-.10	-.018 0	.14	.51	.32	
5293	+81 5 40.27	75.6	+12.427-.416	-.90	+.005+ 2	.07	.38	.15	
5294	- 1 27 16.84	73.1	+12.398+.349	-.12	-.025 0	.08	.33	.15	71 Aquilæ
5295	+31 13 22.59	63.4	+12.434+.273	-.06	-.009 0	.09	.38	.20	48 Cygni
5296	+31 10 23.19	66.2	+12.398+.272	-.06	-.046 0	.09	.37	.18	
5297	-36 23 1.66	86.9	+12.412+.435	-.21	-.032+ 1	.15	1.23	.32	
5298	-15 18 20.23	71.5	+12.436+.378	-.15	-.022 0	.06	.33	.14	Br 2652. 14 Capr. $\tau^2$
5299	+12 57 49.39	56.2	+12.462+.318	-.09	-.018 0	.11	.47	.28	
5300	- 2 45 52.80	76.4	+12.497+.351	-.13	+.016 0	.11	.51	.20	

5291 β 151. 4<sup>M</sup>0-5<sup>M</sup>3 < 1", binary, 27 yrs. ±; Σ 2704. 11<sup>M</sup> 38" 330°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s				$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
5301	Br 2664	4.8	20	34	3.318	68.7	+2.6782+.0010	+.003	+.0041 0	.13	.54	.26
5302	L 8517	5.7	34	3.542		87.8	+3.7751-.0229	-.004	+.0031 0	.12	.98	.25
5303	Br 2668	5.1	34	10.497		69.4	+2.6119+.0015	+.003	-.0002 0	.12	.52	.25
5304	$\kappa$ Delphini	5.3	34	16.342		82.2	+2.9144-.0016	+.002	+.0213 0	.06	.32	.11
5305	Br 2661	5.5	34	17.392		60.2	+3.0761-.0044	+.001	+.0062 0	.12	.44	.24
5306	$\nu$ Capricorni	5.4	34	21.485		75.8	+3.4197-.0122	-.002	-.0020 0	.05	.26	.10
5307	Br 2667	6.3	34	26.641		69.4	+2.7829-.0001	+.003	-.0001 0	.07	.39	.17
5308	Br 2704	5.7	34	31.554		78.1	-3.5676-.3968	-.551	+.0122+2	.06	.28	.11
5309	Pi 258	6.0	34	52.482		63.7	+2.4674+.0024	+.004	-.0033 0	.18	.72	.38
5310	$\alpha$ Delphini	3.9	34	59.597		74.4	+2.7865-.0001	+.003	+.0044 0	.03	.16	.06
5311	L 8529	6.0	35	11.613		94.4	+3.7304-.0214	-.003	+.0084 0	.14	1.08	.22
5312	Br 2705	6.2	35	15.071		67.6	-3.2863-.3706	-.499	+.0296-31	.08	.32	.16
5313	Groomb 3248 <i>m</i>	6.2	35	53.766		62.2	+2.1945+.0027	+.004	+.0010 0	.15	.72	.38
5314	Br 2671	7.1	35	55.830		77.4	+2.7950-.0002	+.003	+.0066 0	.13	.86	.31
5315	$\beta$ Pavonis	3.4	35	57.013		71.6	+5.4607-.1163	-.005	-.0079+1	.08	.38	.16
5316	Br 2674	6.8	36	0.790		83.0	+2.0231+.0021	+.003	+.0007 0	.13	.44	.18
5317	Br 2672	6.4	36	35.299		56.1	+2.8089-.0004	+.003	-.0007 0	.13	.38	.24
5318	$\eta$ Indi	4.7	36	41.841		87.6	+4.4271-.0508	-.008	+.0153-1	.14	.80	.23
5319	Br 2675	5.9	36	59.649		78.6	+2.4269+.0026	+.004	+.0001 0	.09	.44	.16
5320	$\alpha$ Cygni	1.0	38	1.361		65.7	+2.0440+.0022	+.003	.0000 0	.03	.11	.06
5321	Groomb 3263	6.2	38	10.477		73.2	+1.2773-.0101	-.006	+.0004-4	.10	.51	.21
5322	Groomb 3258	5.8	38	19.755		61.9	+2.1669+.0027	+.004	+.0013 0	.18	.72	.39
5323	$\delta$ Delphini	4.5	38	47.420		76.5	+2.8007-.0002	+.003	-.0016 0	.05	.24	.09
5324	Radcl 4976	6.4	39	5.25		79.6	-5.631-.755		+.0128+17	.10	.72	.24
5325	Br 2683	5.5	39	7.675		61.8	+1.8498+.0006	+.002	+.0006 0	.13	.57	.30
5326	L 8545	5.8	39	49.193		84.0	+3.9229-.0295	-.004	+.0042 0	.14	.64	.22
5327	$\sigma$ Pavonis	5.6	39	50.393		77.4	+5.7461-.1432	+.008	-.0147+4	.11	.62	.23
5328	$\psi$ Capricorni	4.2	40	10.563		77.9	+3.5590-.0167	-.002	-.0042+1	.06	.27	.10
5329	Br 2677	6.0	40	22.207		82.5	+3.4844-.0145	-.001	+.0015 0	.08	.38	.13
5330	Br 2680	5.2	40	32.825		74.6	+2.5952+.0020	+.003	-.0026+1	.10	.39	.17
5331	Br 2687	4.4	41	32.025		72.7	+2.4751+.0026	+.004	-.0011 0	.11	.40	.18
5332	$\epsilon$ Microscopii	5.3	41	42.462		86.2	+4.0826-.0362	-.005	+.0156 0	.14	.70	.22
5333	Br 2697	5.7	41	56.170		78.3	+0.7612-.0261	-.021	+.0038-1	.09	.40	.16
5334	$\gamma^1$ Delphini	5.4	42	0.329		75.9	+2.7841+.0002	+.003	-.0014+1	.09	.50	.20
5335	$\gamma^2$ Delphini	4.4	42	1.144		69.4	+2.7832+.0002	+.003	-.0023+1	.05	.28	.13
5336	$\epsilon$ Cygni	2.5	42	9.893		77.2	+2.4265+.0028	+.004	+.0288-1	.03	.16	.06
5337	$\epsilon$ Aquarii	3.8	42	15.804		77.6	+3.2507-.0084	.000	+.0019 0	.03	.18	.07
5338	Br 2684	4.6	42	27.681		78.7	+3.1676-.0065	+.001	-.0004 0	.07	.32	.12
5339	Pi 298	7.6	42	31.660		81.6	+3.5079-.0152	-.002	+.0029+1	.09	.52	.18
5340	$\zeta$ Indi	5.0	42	36.079		89.8	+4.1483-.0400	-.004	+.0038 0	.15	.75	.21
5341	Yarn 9293	8.1	42	44.098		88.4	+3.4148-.0127	-.001	+.0020 0	.13	.84	.22
5342	Dpt 2519	7.5	42	45.120		83.6	+3.4145-.0127	-.001	+.0017 0	.11	.50	.17
5343	Br 2688	5.7	42	51.133		80.1	+2.9726-.0027	+.002	+.0003 0	.09	.34	.14
5344	Pi 332	4.6	42	52.203		83.9	+1.4910-.0040	-.002	-.0083+3	.06	.32	.10
5345	<i>T</i> Cygni	Var.	43	11.258		90.4	+2.3934+.0031	+.004	+.0036 0	.12	.69	.18
5346	$\eta$ Cephei	3.5	43	15.390		67.3	+1.2268-.0145	-.008	+.0135-16	.03	.15	.07
5347	L 8550 <sup>1</sup>	6.7	43	17.574		85.4	+5.0477-.0920	.000	+.0076 0	.18	.81	.27
5348	L 8550 <sup>2</sup>	6.7	43	18.040		85.7	+5.0477-.0920	.000	+.0076 0	.18	.81	.27
5349	Pi 305	5.9	43	21.435		82.8	+3.5689-.0174	-.002	-.0002 0	.13	.64	.22
5350	$\lambda$ Cygni <i>m</i>	4.7	20	43	30.770	78.0	+2.3351+.0032	+.004	+.0003 0	.05	.24	.09

5313  $\Sigma$  410.  $6^m 9^s 7^m 2^s 0'' 6$  18°;  $8^m 69''$  70°.  
 5331  $\Sigma$  2726.  $9^m 6''$  62°.

5319  $\Sigma$  2716.  $8^m 3''$  48°.  
 5343  $\beta$  65.  $9^m 1'' 4$  188°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" " "		" "	"	"	"	"	"	
5301	+20 50 59.85	69.0	+12.482+.301	-.09	-.001 0	.11	.46	.22	29 Vulpeculæ
5302	-33 47 8.77	86.8	+12.490+.426	-.21	+.007 0	.12	1.34	.33	13 G Microscopii
5303	+23 45 53.61	62.2	+12.480+.292	-.08	-.011 0	.11	.42	.23	28 Vulpeculæ
5304	+9 44 1.73	76.8	+12.510+.329	-.10	+.012+2	.06	.28	.11	02 533. 11 <sup>M</sup> 10'' 11°, rel. mot.
5305	+0 8 4.96	61.4	+12.484+.346	-.12	-.015+1	.09	.33	.19	1 Aquarii
5306	-18 29 27.27	72.3	+12.483+.384	-.16	-.021 0	.06	.27	.12	
5307	+15 29 11.93	71.0	+12.485+.312	-.09	-.025 0	.07	.39	.17	
5308	+81 4 49.93	73.8	+12.528-.410	-.89	+.013+1	.05	.24	.10	75 Draconis
5309	+29 59 0.89	63.8	+12.460+.275	-.07	-.079 0	.17	.77	.40	
5310	+15 33 32.65	68.6	+12.539+.312	-.09	-.008 0	.04	.18	.08	
5311	-31 57 5.18	92.0	+12.505+.419	-.21	-.056+1	.15	1.12	.25	17 G Microscopii
5312	+80 44 29.48	63.0	+12.781-.375	-.81	+.216+3	.08	.27	.15	74 Draconis
5313	+40 13 32.16	59.4	+12.595+.243	-.05	-.014 0	.13	.58	.32	*
5314	+15 17 13.83	75.3	+12.657+.312	-.09	+.046+1	.12	.69	.27	
5315	-66 33 44.71	73.6	+12.625+.613	-.56	+.013-1	.07	.37	.15	
5316	+45 18 47.19	79.5	+12.611+.224	-.05	-.006 0	.12	.40	.17	
5317	+14 13 36.56	62.3	+12.650+.312	-.09	-.006 0	.12	.47	.25	10 Delphini
5318	-52 16 40.90	83.3	+12.615+.497	-.32	-.048+2	.11	.56	.19	
5319	+31 57 4.94	70.7	+12.665+.268	-.07	-.018 0	.08	.30	.14	49 Cygni *
5320	+44 55 22.17	64.8	+12.752+.224	-.05	-.001 0	.02	.10	.05	
5321	+60 8 36.65	72.8	+12.949+.138	-.04	+.186 0	.09	.44	.19	
5322	+41 21 31.23	61.2	+12.783+.238	-.05	+.009 0	.15	.57	.32	
5323	+14 42 56.27	77.1	+12.754+.308	-.09	-.051 0	.04	.25	.09	
5324	+83 16 44.22	69.7	+12.798-.635		-.026+2	.11	.75	.32	
5325	+49 58 50.64	46.6	+12.827+.202	-.04	.000 0	.12	.36	.26	51 Cygni
5326	-39 33 43.84	83.9	+12.850+.433	-.24	-.024 0	.13	.61	.21	
5327	-69 8 29.69	81.0	+12.824+.635	-.66	-.051-2	.10	.56	.19	
5328	-25 37 49.49	76.6	+12.739+.391	-.18	-.159 0	.06	.27	.11	
5329	-21 52 39.49	86.1	+12.894+.383	-.17	-.016 0	.08	.37	.12	17 Capricorni
5330	+24 54 45.24	73.2	+12.740+.283	-.08	-.182 0	.08	.36	.16	30 Vulpeculæ
5331	+30 21 15.79	63.0	+13.011+.269	-.07	+.023 0	.08	.31	.17	52 Cygni *
5332	-44 21 10.34	83.7	+12.903+.449	-.27	-.097+2	.12	.58	.19	
5333	+66 17 37.92	71.3	+13.059+.079	-.05	+.044 0	.08	.31	.15	4 Cephei
5334	+15 45 49.59	76.7	+12.826+.303	-.09	-.194 0	.09	.51	.19	} 2727. 11'' 271°
5335	+15 45 49.30	69.2	+12.817+.302	-.09	-.204 0	.05	.26	.12	
5336	+33 35 43.67	70.9	+13.352+.267	-.06	+.322+3	.04	.17	.08	$\beta$ 676. 11 <sup>M</sup> 39'' 304°, rel. mot.
5337	-9 51 43.15	75.1	+13.003+.354	-.14	-.034 0	.04	.19	.08	
5338	-5 23 38.39	77.2	+13.011+.345	-.13	-.039 0	.06	.28	.11	3 Aquarii
5339	-23 6 13.97	82.6	+12.884+.383	-.18	-.170 0	.10	.55	.18	
5340	-46 35 48.47	83.9	+13.071+.454	-.28	+.012 0	.13	.58	.20	
5341	-18 34 4.57	87.2	+13.050+.372	-.16	-.018 0	.14	.90	.25	} h 2996. 16'' 295°
5342	-18 34 11.27	72.7	+13.066+.372	-.16	-.003 0	.12	.43	.20	
5343	+5 38 26.96	76.9	+13.081+.323	-.11	+.005 0	.08	.30	.13	13 Delphini *
5344	+57 13 14.70	74.9	+12.845+.158	-.04	-.232-1	.06	.30	.12	
5345	+34 0 23.45	88.2	+13.108+.259	-.06	+.010 0	.11	.71	.19	Bruss 9083. 5 <sup>M</sup> 5 to 6 <sup>M</sup>
5346	+61 27 0.99	66.1	+13.923+.131	-.04	+.820+2	.03	.13	.07	
5347	-62 47 58.93	80.0	+13.062+.552	-.47	-.043+1	.16	.86	.30	} 114 G Pavonis *
5348	-62 47 58.93	80.0	+13.066+.552	-.47	-.040+1	.16	.86	.30	
5349	-26 9 1.61	80.0	+13.079+.388	-.19	-.030 0	.13	.59	.22	52 G Capricorni
5350	+36 7 22.75	72.3	+13.109+.252	-.06	-.011 0	.06	.25	.11	02 413. 5 <sup>M</sup> 0-6 <sup>M</sup> 3 0'' 7 65°, slow

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
5351	Pi 310	6.6	20 43 40.241	68.2	+3.4084-.0126	-.001	.0000 0	.13	.54	.26
5352	$\alpha$ Microscopii	5.0	43 43.416	80.4	+3.7574-.0240	-.003	+0.0002 0	.11	.51	.19
5353	Pi 312	7.4	44 5.692	81.7	+3.6031-.0186	-.001	+0.0005 0	.13	.69	.23
5354	$\epsilon$ Indi	5.3	44 16.413	86.0	+4.3616-.0512	-.004	+0.0005 0	.14	.68	.21
5355	Arg N 21126	5.9	44 31.743	94.7	+1.9772+.0020	+0.003	+0.0020 0	.13	1.04	.20
5356	L 8582	5.8	44 35.505	83.8	+3.8659-.0284	-.003	-.0008 0	.16	.75	.26
5357	L 8590	7.0	44 36.570	81.6	+3.5434-.0168	-.001	-.0057+ 1	.12	.82	.26
5358	Br 2693	6.1	44 51.860	75.6	+2.8597-.0009	+0.003	+0.0042 0	.10	.32	.15
5359	Br 2691	6.3	44 54.130	61.2	+2.9417-.0022	+0.002	+0.0015 0	.15	.58	.32
5360	Pi 325	6.3	45 11.088	78.9	+3.3109-.0098	.000	+0.0083 0	.09	.50	.18
5361	Br 2699	5.2	45 31.850	74.7	+2.0435+.0025	+0.004	+0.0003 0	.09	.30	.14
5362	Dpt 2428	6.7	45 41.628	76.9	+1.8130+.0004	+0.003	+0.0023 0	.11	.72	.26
5363	$\omega$ Capricorni	4.1	45 51.292	77.8	+3.5885-.0184	-.001	-.0006 0	.07	.36	.14
5364	Br 2694 <i>m</i>	6.1	46 7.612	66.3	+3.1835-.0068	+0.001	+0.0060 0	.11	.46	.23
5365	Br 2702	5.1	46 31.763	71.8	+2.1298+.0029	+0.004	+0.0114 0	.08	.27	.13
5366	Br 2695	5.7	46 51.432	60.8	+3.1744-.0068	+0.001	-.0007 0	.13	.44	.25
5367	$\beta$ Indi	3.6	46 59.787	75.1	+4.7223-.0734	.000	+0.0015 0	.11	.48	.20
5368	Pi 339	6.6	47 9.340	81.0	+3.5260-.0163	-.001	+0.0067 0	.09	.52	.18
5369	L 8606	5.6	47 9.893	87.6	+3.9179-.0308	-.002	+0.0040+ 1	.12	.82	.22
5370	<i>T</i> Vulpeculæ	Var.	47 13.516	75.3	+2.5459+.0026	+0.004	+0.0005 0	.16	.78	.32
5371	$\mu$ Aquarii	4.8	47 15.651	75.9	+3.2390-.0083	+0.001	+0.0025 0	.04	.20	.08
5372	Pi 351	6.7	47 37.447	70.4	+3.2866-.0095	+0.001	+0.0037 0	.11	.50	.23
5373	Br 2703	4.8	47 50.813	75.7	+2.5664+.0024	+0.004	-.0056 0	.10	.32	.15
5374	Br 2700	6.1	49 8.869	73.8	+3.3956-.0128	.000	-.0038 0	.08	.30	.13
5375	Br 2710	4.8	49 42.577	59.2	+2.1210+.0032	+0.004	+0.0016 0	.09	.38	.21
5376	Groomb 3319	5.7	49 49.026	62.5	+2.0955+.0031	+0.004	+0.0024 0	.14	.64	.34
5377	Br 2754	5.9	49 50.600	80.4	-4.0729-.5375	-.990	+0.0163+ 1	.04	.24	.08
5378	Harv <sup>18</sup> 1009	5.9	49 50.796	91.2	+2.4301+.0032	+0.004	-.0006 0	.11	.86	.19
5379	Br 2709	5.3	50 17.849	76.8	+2.5554+.0026	+0.004	-.0007 0	.03	.20	.07
5380	Br 2712	7.8	50 21.051	65.8	+2.1234+.0032	+0.004	+0.0015 0	.13	.50	.25
5381	Pi 391	7.4	50 26.885	68.4	+1.7143-.0013	.000	+0.0024- 2	.08	.33	.16
5382	Pi 376	6.2	50 40.298	62.7	+3.0053-.0032	+0.002	+0.0043 0	.12	.54	.28
5383	Pi 370	6.0	50 50.877	79.3	+3.5724-.0182	.000	+0.0066 0	.11	.56	.20
5384	Br 2707	5.6	50 52.306	69.0	+2.8632-.0008	+0.003	+0.0029 0	.10	.44	.21
5385	Br 2708	5.4	50 52.610	60.5	+2.8404-.0004	+0.003	+0.0009 0	.13	.44	.25
5386	Br 2706	5.8	51 29.768	60.5	+3.2455-.0087	+0.001	-.0010 0	.13	.38	.22
5387	Pi 386	6.1	52 4.809	79.6	+3.3643-.0119	.000	+0.0040 0	.10	.60	.21
5388	Br 2749	5.7	52 8.079	73.8	-2.5800-.3166	-.502	-.0101+ 1	.04	.22	.09
5389	Br 2720	5.9	52 27.213	75.8	+2.0251+.0028	+0.004	+0.0002 0	.10	.44	.18
5390	$\alpha$ Octantis	5.3	52 36.493	76.7	+7.4332-.3501	+2.06	-.0028+37	.07	.52	.19
5391	L 8624	6.0	53 14.761	93.3	+4.2920-.0519	-.001	-.0098- 1	.16	.88	.22
5392	Groomb 3341	5.9	53 15.050	79.8	+1.9026+.0018	+0.003	+0.0034 0	.13	.62	.23
5393	$\nu$ Cygni	4.0	53 26.665	76.8	+2.2346+.0038	+0.005	+0.0004 0	.03	.18	.07
5394	Br 2727	6.3	53 36.580	68.2	+1.6063-.0026	.000	+0.0011 0	.09	.34	.17
5395	Br 2716	5.6	53 36.928	58.0	+2.8888-.0012	+0.003	-.0044 0	.14	.52	.31
5396	L 8630	6.4	53 41.044	91.3	+3.8002-.0273	-.001	+0.0092 0	.13	.87	.21
5397	Br 2719	5.6	53 48.120	75.0	+2.6815+.0017	+0.004	.0000 0	.10	.45	.19
5398	Br 2713	6.4	53 55.280	69.0	+3.4155-.0136	.000	+0.0012 0	.11	.42	.20
5399	Br 2717 <i>m</i>	5.5	54 4.613	60.4	+2.9977-.0031	+0.002	-.0084+ 1	.11	.45	.25
5400	Br 2715	6.9	20 54 25.136	74.0	+3.3015-.0104	+0.001	-.0021 0	.11	.42	.19

5352 h 5224.  $9^M 4 20'' 166^\circ$ .  
 5364  $\Sigma$  2729.  $6^M 4-7^M 7 < 1''$ , binary.

5361 h 1581.  $11^M 21'' 174^\circ$ .  
 5368 h 3003.  $9^M 2'' 217^\circ$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5351	-18 24 17.78	71.6	+13.095+.370	-.17	-.035 0	.12	.51	.23	27 G Microscopii * h 5226. 9 <sup>m</sup> 19" 67°
5352	-34 8 59.47	73.4	+13.095+.408	-.22	-.039 0	.11	.51	.22	
5353	-27 44 16.24	78.0	+13.126+.391	-.19	-.032 0	.12	.56	.22	
5354	-51 58 50.52	84.1	+13.133+.474	-.32	-.037 0	.11	.56	.18	
5355	+47 27 46.94	96.6	+13.173+.212	-.05	-.014 0	.12	.99	.18	
5356	-38 17 6.82	84.6	+13.164+.419	-.23	-.027 0	.14	.69	.22	28 G Microscopii
5357	-25 21 6.58	77.2	+13.067+.383	-.18	-.125- 1	.12	.77	.28	54 G Capricorni
5358	+12 10 16.15	73.4	+13.305+.308	-.10	+ .096 0	.09	.31	.15	15 Delphini
5359	+7 29 31.79	57.7	+13.217+.317	-.11	+ .006 0	.14	.55	.32	14 Delphini
5360	-12 54 55.78	80.4	+13.158+.358	-.15	-.072+ 1	.08	.51	.17	
5361	+45 44 34.58	73.2	+13.249+.218	-.05	-.004 0	.09	.26	.13	55 Cygni *
5362	+51 32 21.02	68.4	+13.274+.193	-.04	+ .011 0	.10	.46	.22	Σ 2732. 8 <sup>m</sup> 7 4" 74°
5363	-27 17 35.99	80.6	+13.260+.386	-.19	-.014 0	.07	.39	.14	
5364	- 6 0 2.44	64.9	+13.281+.342	-.13	-.011+ 1	.08	.33	.17	4 Aquarii *
5365	+43 40 56.64	68.1	+13.446+.228	-.05	+ .128+ 1	.06	.23	.12	56 Cygni
5366	- 5 52 56.58	63.7	+13.335+.340	-.13	-.004 0	.11	.39	.21	5 Aquarii
5367	-58 49 53.05	79.5	+13.323+.508	-.41	-.026 0	.09	.48	.17	
5368	-24 9 28.72	81.8	+13.303+.378	-.18	-.056+ 1	.09	.50	.17	58 G Capricorni *
5369	-40 11 2.95	85.4	+13.264+.420	-.24	-.096 0	.10	.61	.18	33 G Microscopii
5370	+27 52 31.63	67.9	+13.351+.271	-.08	-.013 0	.15	.63	.30	Pulk <sub>ss</sub> 3038. 5 <sup>m</sup> 5 to 6 <sup>m</sup> 5
5371	- 9 21 31.37	71.8	+13.331+.346	-.14	-.035 0	.04	.19	.08	
5372	-11 57 6.56	75.8	+13.429+.351	-.15	+ .039 0	.11	.51	.21	
5373	+26 43 20.57	75.6	+13.333+.272	-.08	-.071- 1	.08	.30	.13	31 Vulpeculæ
5374	-18 18 8.16	68.5	+13.469+.360	-.17	-.019 0	.07	.26	.13	19 Capricorni
5375	+44 0 30.50	54.4	+13.531+.223	-.05	+ .006 0	.08	.32	.20	57 Cygni
5376	+44 48 9.86	62.1	+13.529+.220	-.05	-.003 0	.11	.50	.26	
5377	+82 9 40.04	82.6	+13.559-.442	-1.16	+ .026+ 2	.04	.20	.07	76 Draconis
5378	+33 3 26.55	92.2	+13.575+.256	-.07	+ .041 0	.11	.87	.19	
5379	+27 40 37.52	72.8	+13.561+.268	-.08	-.002 0	.04	.24	.10	32 Vulpeculæ
5380	+44 0 23.34	71.9	+13.579+.222	-.05	+ .013 0	.11	.59	.25	
5381	+54 8 0.79	65.1	+13.750+.178	-.04	+ .178 0	.08	.30	.16	
5382	+ 4 9 1.33	55.6	+13.589+.317	-.12	+ .002 0	.11	.46	.27	Σ 2735. 7 <sup>m</sup> 7 2" 285°
5383	-26 40 39.57	80.1	+13.534+.378	-.19	-.064+ 1	.11	.56	.20	63 G Capricorni
5384	+12 11 9.28	71.0	+13.612+.301	-.10	+ .012 0	.09	.35	.16	16 Delphini
5385	+13 20 23.12	63.1	+13.581+.298	-.10	-.019 0	.12	.40	.22	17 Delphini
5386	-10 4 51.82	66.4	+13.626+.341	-.15	-.014 0	.11	.38	.20	7 Aquarii *
5387	-16 24 59.30	76.0	+13.680+.353	-.16	+ .003 0	.10	.48	.19	64 G Capricorni
5388	+80 10 38.39	74.4	+13.650-.282	-.64	-.030- 1	.04	.22	.09	
5389	+47 2 3.05	71.2	+13.696+.210	-.05	-.005 0	.09	.37	.17	
5390	-77 24 17.99	76.5	+13.349+.784	-1.32	-.362 0	.06	.40	.15	
5391	-51 39 26.50	88.9	+13.878+.448	-.33	+ .127- 1	.13	.63	.19	8 G Indi
5392	+50 20 39.51	76.2	+13.734+.196	-.05	-.018 0	.13	.50	.21	
5393	+40 46 54.75	73.4	+13.740+.231	-.06	-.024 0	.04	.21	.09	
5394	+56 30 8.64	64.2	+13.781+.164	-.04	+ .006 0	.08	.27	.15	
5395	+10 27 10.96	57.1	+13.722+.299	-.11	-.053 0	.14	.55	.32	18 Delphini
5396	-36 30 59.09	91.6	+13.743+.398	-.23	-.036+ 1	.14	1.01	.23	37 G Microscopii
5397	+21 56 20.37	74.7	+13.782+.278	-.09	-.005 0	.08	.37	.15	33 Vulpeculæ
5398	-19 25 23.13	69.3	+13.771+.356	-.18	-.023 0	.10	.37	.18	20 Capricorni
5399	+ 3 54 35.47	57.2	+13.660+.310	-.11	-.144- 1	.10	.35	.21	1 Equulei (ε) *
5400	-13 26 26.01	73.0	+13.820+.342	-.15	-.006 0	.10	.39	.18	8 Aquarii

5386 β 1034. 11<sup>m</sup> 2" 166°.5399 Σ 2737. 6<sup>m</sup> 0-6<sup>m</sup> 5 1" ±, binary, 7<sup>m</sup> 11" 73°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m	s	s	s		s		"	"	"
5401	Br 2726	5.9	20	54	44.673	76.4	+2.1462+	.0036	+ .004	+ .0098	0	.10	.42	.17
5402	$\gamma$ Microscopii	4.8		55	9.546	84.4	+3.6911-	.0235	- .001	+ .0006	0	.10	.68	.20
5403	Br 2718	6.7		55	14.155	70.3	+3.3822-	.0128	+ .001	- .0020	0	.09	.36	.17
5404	Br 2721	6.8		55	15.641	71.4	+3.1715-	.0069	+ .002	+ .0001	0	.13	.69	.30
5405	Pi 429	6.0		55	17.809	68.2	+1.9210+	.0020	+ .004	+ .0008	0	.12	.57	.27
5406	Br 2723	6.5		55	17.919	83.2	+3.1616-	.0065	+ .002	+ .0029+	1	.06	.40	.13
5407	Br 2722	7.1		55	37.685	73.4	+3.3107-	.0106	+ .001	- .0003	0	.10	.44	.19
5408	Pi 411	6.1		55	49.227	80.8	+3.5700-	.0190	.000	+ .0017	0	.13	.58	.21
5409	Pulk <sub>ss</sub> 3063	5.9		55	53.448	85.7	+2.7399+	.0012	+ .004	- .0024	0	.12	.52	.17
5410	Br 2732	4.9		56	25.498	66.6	+2.0392+	.0032	+ .004	+ .0007	0	.06	.38	.17
5411	$\zeta$ Microscopii	5.5		56	34.685	86.0	+3.8478-	.0302	.000	- .0017+	1	.07	.51	.14
5412	Br 2738	5.9		56	57.495	72.9	+1.4820-	.0052	- .003	+ .0062+	1	.09	.44	.19
5413	Br 2728 <i>m</i>	7.0		57	16.673	72.2	+2.9578-	.0023	+ .003	- .0008	0	.10	.32	.16
5414	Br 2735	5.5		57	41.440	63.9	+2.0923+	.0035	+ .005	+ .0002	0	.11	.45	.24
5415	$\mu$ Indi	5.5		57	53.030	88.0	+4.4420-	.0618	+ .004	+ .0014+	1	.20	.93	.28
5416	Pi 452	6.7		58	30.788	81.0	+2.2985+	.0042	+ .005	- .0005	0	.10	.42	.16
5417	$\eta$ Capricorni	5.0		58	42.880	65.6	+3.4199-	.0142	+ .001	- .0030	0	.06	.27	.14
5418	Br 2730	5.7		58	47.372	65.5	+3.1771-	.0071	+ .002	+ .0012	0	.12	.46	.24
5419	L 8625 <i>m</i>	5.9		58	54.059	80.8	+6.3875-	.2270	+ .103	+ .0963-	2	.18	1.02	.27
5420	Br 2740	6.4		59	11.974	69.8	+2.3251+	.0042	+ .005	+ .0007	0	.09	.34	.16
5421	Groomb 3378 <i>m</i>	6.0		59	23.719	60.0	+1.6555-	.0016	+ .001	+ .0025	0	.15	.66	.36
5422	Br 2734	5.9		59	35.902	55.0	+2.9891-	.0028	+ .003	+ .0013	0	.13	.52	.32
5423	$\eta$ Microscopii	5.7		59	55.165	83.7	+3.9182-	.0342	+ .001	+ .0011	0	.13	.80	.25
5424	$\delta$ Microscopii	5.9	20	59	58.898	81.3	+3.6308-	.0217	+ .001	+ .0013	0	.14	.78	.26
5425	Pi 465	6.7	21	0	7.443	84.1	+2.2447+	.0043	+ .005	+ .0002	0	.08	.48	.15
5426	Br 2731	5.4		0	17.893	80.1	+3.6780-	.0238	.000	- .0012	0	.14	.69	.25
5427	$\theta$ Capricorni	4.1		0	19.614	72.6	+3.3779-	.0128	+ .001	+ .0057	0	.04	.24	.10
5428	Br 2739	6.1		0	29.359	61.7	+2.9736-	.0025	+ .003	- .0069+	1	.11	.45	.25
5429	L 8678	7.0		0	59.149	93.2	+4.1714-	.0474	+ .002	+ .0036	0	.16	.93	.23
5430	Br 2737	4.6		1	16.815	78.3	+3.5165-	.0178	+ .001	- .0022	0	.10	.40	.16
5431	$\xi$ Cygni	3.9		1	17.581	72.3	+2.1803+	.0042	+ .005	+ .0006	0	.04	.24	.10
5432	Pulk <sub>ss</sub> 3078	6.0		2	18.479	87.0	+2.5143+	.0037	+ .005	- .0008	0	.11	.62	.18
5433	61 <sup>1</sup> Cygni	5.5		2	24.858	69.5	+2.6873+	.0100	+ .005	+ .3523+	60			
5434	61 <sup>2</sup> Cygni	6.1		2	26.385	71.8	+2.6863+	.0023	+ .005	+ .3511-	17			
5435	$\chi$ Capricorni	5.4		2	50.026	65.4	+3.4432-	.0152	+ .001	+ .0014	0	.10	.33	.18
5436	Br 2750	4.8		3	9.403	68.7	+2.0654+	.0038	+ .005	+ .0011	0	.09	.34	.17
5437	Br 2742	7.1		3	33.612	76.7	+3.4229-	.0147	+ .001	+ .0009	0	.18	.64	.28
5438	Br 2743	6.5		3	50.029	78.2	+3.4369-	.0148	+ .001	+ .0087	0	.11	.38	.16
5439	$\circ$ Pavonis	5.3		3	57.980	77.5	+5.7043-	.1704	+ .067	+ .0049	0	.12	.62	.23
5440	L 8692	7.3		4	7.730	87.1	+4.5002-	.0689	+ .009	+ .0033	0	.18	.92	.28
5441	$\nu$ Aquarii	4.6		4	8.870	77.5	+3.2721-	.0098	+ .002	+ .0063	0	.04	.21	.08
5442	Pi 1	6.0		4	24.312	76.2	+2.5433+	.0037	+ .005	+ .0017	0	.09	.50	.19
5443	$\gamma$ Equulei	4.7		5	28.717	68.0	+2.9178-	.0011	+ .003	+ .0036+	1	.08	.33	.16
5444	Br 2752	6.3		5	39.747	72.9	+2.9153-	.0013	+ .003	- .0005	0	.11	.44	.20
5445	L 8715	6.1		5	48.472	81.4	+3.8687-	.0329	+ .002	+ .0051+	1	.15	.75	.26
5446	L 8719	5.5		6	39.267	85.2	+3.8534-	.0321	+ .002	+ .0160	0	.13	.78	.24
5447	Pi 32	5.8		7	10.089	52.2	+1.8537+	.0019	+ .003	+ .0025	0	.10	.39	.25
5448	Br 2753	5.7		7	21.614	76.8	+3.5661-	.0200	+ .002	+ .0071	0	.10	.44	.18
5449	L 8734	7.8		7	29.223	92.8	+3.5052-	.0179	+ .002	+ .0018	0	.12	.80	.18
5450	Br 2777	6.1	21	7	30.291	81.3	-1.1167-	.1764	- .270	+ .0083-	1	.04	.22	.08

5410  $\Sigma$  2743.  $9^M 20'' 353^\circ$ .  
 5414  $O\Sigma$  426.  $10^M 3'' 162^\circ$ .

5413  $\Sigma$  2742.  $7^M 8-7^M 8 3'' 221^\circ$ .  
 5416 W. H.  $10^M 19'' 300^\circ$ ;  $12^M 26'' 250^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10			Remarks.
	" " "		" "	"	"	"	"	"	
5401	+44 4 55.10	76.5	+13.914+.221	-.05	+.068+ 1	.10	.44	.18	
5402	-32 38 55.17	81.9	+13.877+.383	-.22	+.004 0	.09	.55	.18	1 Piscis Aust
5403	-17 55 15.35	68.9	+13.868+.350	-.17	-.010 0	.09	.35	.17	21 Capricorni
5404	-5 52 2.04	68.6	+13.871+.328	-.14	-.008 0	.11	.47	.22	10 Aquarii
5405	+50 4 24.76	65.2	+13.897+.196	-.05	+.016 0	.10	.44	.22	$\Sigma$ 2741. 7 <sup>m</sup> 5 1 <sup>s</sup> 9 30°
5406	-5 7 0.23	79.3	+13.746+.327	-.14	-.136 0	.07	.35	.13	11 Aquarii
5407	-13 55 16.31	73.3	+13.905+.342	-.16	+.003 0	.09	.42	.18	9 Aquarii
5408	-27 16 19.83	79.3	+13.882+.369	-.20	-.032 0	.12	.59	.22	67 G Capricorni
5409	+18 56 25.69	83.8	+13.852+.281	-.09	-.067 0	.12	.49	.18	8 <sup>m</sup> 8 46 <sup>s</sup> 333°
5410	+47 7 49.51	59.5	+13.955+.208	-.05	+.003 0	.06	.26	.14	59 Cygni <i>f</i> <sup>1</sup> *
5411	-39 1 18.98	82.2	+13.842+.396	-.25	-.120 0	.08	.47	.15	
5412	+59 2 51.22	77.7	+13.990+.149	-.04	+.004+ 1	.09	.40	.16	
5413	+6 47 11.64	68.8	+13.995+.302	-.12	-.011 0	.10	.30	.16	2 Equulei *
5414	+45 45 46.25	56.6	+14.035+.212	-.05	+.003 0	.10	.38	.23	60 Cygni *
5415	-55 7 21.23	84.5	+13.994+.456	-.36	-.050 0	.15	.71	.24	
5416	+39 6 51.78	77.8	+14.077+.232	-.06	-.006 0	.09	.35	.14	*
5417	-20 15 2.02	64.0	+14.052+.348	-.18	-.043 0	.06	.26	.14	
5418	-6 13 8.65	61.4	+14.096+.323	-.14	-.004 0	.09	.33	.18	12 Aquarii *
5419	-73 33 52.11	85.2	+13.776+.666	-.89	-.331+10	.14	.77	.24	119 G Pavonis *
5420	+38 15 42.75	73.3	+14.117+.235	-.06	-.009 0	.08	.36	.16	
5421	+56 16 28.57	56.8	+14.138+.166	-.04	.000 0	.11	.46	.27	$\Sigma$ 2751. 6 <sup>m</sup> 4-7 <sup>m</sup> 4 1 <sup>s</sup> 7 350°
5422	+5 6 19.66	53.1	+14.151+.303	-.12	+.001 0	.13	.52	.32	3 Equulei
5423	-41 47 5.58	80.6	+14.152+.398	-.26	-.018 0	.11	.65	.22	
5424	-30 31 20.34	78.4	+14.080+.368	-.21	-.094 0	.13	.69	.25	
5425	+41 13 56.99	81.1	+14.132+.225	-.06	-.051 0	.07	.38	.13	O $\Sigma$ App. 8 <sup>m</sup> 57 <sup>s</sup> 185°
5426	-32 44 29.86	77.5	+14.183+.373	-.22	-.011 0	.13	.67	.25	2 Pisc Aust 49 G Micros
5427	-17 37 49.39	71.7	+14.129+.342	-.17	-.066+ 1	.05	.24	.10	
5428	+5 33 46.05	59.6	+14.072+.299	-.12	-.134- 1	.10	.38	.22	4 Equulei
5429	-49 20 24.75	89.8	+14.206+.422	-.31	-.030 0	.13	.69	.19	14 G Indi
5430	-25 24 20.43	81.8	+14.203+.354	-.19	-.051 0	.09	.42	.15	24 Capricorni A *
5431	+43 31 43.34	70.6	+14.252+.218	-.05	-.003 0	.04	.18	.08	
5432	+30 47 0.78	91.0	+14.320+.250	-.08	+.003 0	.12	.69	.18	
5433	+38 15 26.82	67.1	+17.566+.300	-.06	+3.242+32				} See Appendix
5434	+38 15 14.00	67.4	+17.398+.326	-.06	+3.073+58				
5435	-21 35 43.75	60.9	+14.292+.344	-.18	-.057 0	.10	.31	.18	
5436	+47 14 46.61	60.9	+14.361+.204	-.05	-.008 0	.08	.27	.15	63 Cygni <i>f</i> <sup>2</sup>
5437	-20 35 52.23	71.9	+14.387+.341	-.18	-.007 0	.14	.46	.22	26 Capricorni
5438	-20 57 29.13	80.7	+14.284+.343	-.18	-.126+ 1	.09	.37	.14	27 Capricorni
5439	-70 32 2.57	79.9	+14.384+.572	-.72	-.034 0	.11	.57	.20	
5440	-56 55 25.46	83.4	+14.412+.450	-.38	-.016 0	.15	.71	.24	
5441	-11 46 36.18	75.2	+14.417+.326	-.15	-.013+ 1	.04	.19	.08	
5442	+29 48 4.98	71.6	+14.429+.251	-.08	-.016 0	.08	.35	.15	$\Sigma$ 2762. 8 <sup>m</sup> 0 3 <sup>s</sup> 5 311°
5443	+9 43 42.83	69.4	+14.349+.288	-.11	-.161 0	.08	.32	.15	Knott. 11 <sup>m</sup> 2 <sup>s</sup> 274°
5444	+9 38 27.46	68.8	+14.538+.287	-.11	+.017 0	.11	.38	.19	6 Equulei
5445	-40 40 19.77	80.9	+14.322+.383	-.25	-.208 0	.13	.65	.23	55 G Microscopii
5446	-39 49 55.90	82.5	+14.445+.381	-.25	-.136+ 2	.13	.67	.23	56 G Microscopii
5447	+53 9 16.84	45.2	+14.609+.179	-.04	-.003 0	.10	.38	.27	} 3 Piscis Aust 58 G Microscopii
5448	-28 1 38.56	81.8	+14.485+.350	-.20	-.138+ 1	.11	.47	.17	
5449	-25 15 23.83	90.8	+14.596+.343	-.19	-.035 0	.10	.77	.18	
5450	+77 43 15.00	81.4	+14.665-.117	-.30	+.033+ 1	.04	.22	.08	77 Draconis

5418  $\Sigma$  2745. 8<sup>m</sup>2<sup>s</sup>8 191°.5419 Innes. 6<sup>m</sup>6-6<sup>m</sup>9; close double.5430 Sec. 12<sup>m</sup>26<sup>s</sup> 186°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup>	$\mu$ and 100 $\Delta \mu$		Prob. Errors.		
			M	h	m	s	"	s		s	"	"	"	"
5451	L 8727	6.0	21	8	37.430	86.3	+4.3094-	.0588	+ .008	+ .0009	0	.15	.78	.24
5452	$\zeta$ Cygni	3.3		8	40.793	70.6	+2.5515+	.0040	+ .005	- .0002	0	.03	.16	.07
5453	Pi 51 <i>m</i>	5.8		9	15.488	81.5	+1.5290-	.0042	- .002	- .0005	0	.06	.28	.10
5454	L 8742	6.4		9	33.402	94.0	+3.7489-	.0284	+ .002	+ .0040	0	.13	1.00	.21
5455	$\delta$ Equulei <i>m</i>	4.6		9	36.613	67.9	+2.9221-	.0009	+ .003	+ .0028	+ 1	.08	.30	.15
5456	$\phi$ Capricorni	5.4		9	56.445	72.7	+3.4207-	.0152	+ .002	+ .0005	0	.09	.33	.16
5457	Br 2759	5.6	10	12.789	64.5	+3.3252-	.0118	+ .002	+ .0012	0	.08	.28	.15	
5458	Pi 61	7.2	10	14.500	71.8	+1.5295-	.0041	- .002	- .0004	0	.12	.56	.24	
5459	Pi 50 <i>m</i>	7.4	10	28.687	75.1	+2.2994+	.0051	+ .006	+ .0028	0	.12	.52	.22	
5460	$\tau$ Cygni	3.8	10	47.909	72.8	+2.3925+	.0046	+ .006	+ .0133-	2	.04	.18	.08	
5461	$\alpha$ Equulei	4.0	10	49.522	79.5	+3.0001-	.0027	+ .004	+ .0038	0	.03	.21	.07	
5462	Br 2763	7.1	10	55.701	70.8	+3.2241-	.0088	+ .003	- .0008	0	.13	.51	.24	
5463	L 8743	7.0	11	4.002	93.2	+4.1073-	.0476	+ .006	- .0033+	1	.15	.96	.22	
5464	$\epsilon$ Microscopii	4.8	11	52.574	83.8	+3.6488-	.0243	+ .002	+ .0045	0	.07	.44	.14	
5465	Br 2765	5.5	12	20.858	66.7	+3.3704-	.0135	+ .002	+ .0010	0	.12	.34	.19	
5466	Br 2766	6.6	12	39.993	69.6	+3.3615-	.0132	+ .002	+ .0016	0	.12	.56	.25	
5467	$\theta$ Indi	4.6	12	44.465	82.7	+4.3057-	.0599	+ .010	+ .0129	0	.16	.78	.27	
5468	Br 2768	5.9	12	56.345	64.7	+3.1501-	.0067	+ .003	+ .0008	0	.13	.48	.25	
5469	$\sigma$ Cygni	4.4	13	29.242	71.7	+2.3536+	.0053	+ .006	- .0004	0	.05	.21	.10	
5470	Pi 66	7.2	13	41.688	69.9	+3.3381-	.0125	+ .002	+ .0014	0	.16	.60	.29	
5471	$\nu$ Cygni	4.4	13	48.363	64.8	+2.4653+	.0050	+ .006	+ .0016	0	.12	.48	.25	
5472	Pi 86	6.3	14	14.874	67.6	+1.7938+	.0014	+ .003	+ .0025	0	.11	.48	.23	
5473	$\theta$ Microscopii	5.0	14	21.972	89.6	+3.8546-	.0345	+ .004	+ .0075	0	.13	.81	.21	
5474	Br 2775	5.0	14	43.341	59.7	+2.2328+	.0055	+ .006	- .0014	0	.11	.45	.25	
5475	Pi 75	7.4	15	22.280	85.7	+3.4166-	.0154	+ .003	+ .0023	0	.11	.64	.19	
5476	Br 2771	6.2	15	49.775	83.2	+3.1472-	.0066	+ .003	- .0017	0	.07	.39	.13	
5477	Pi 78	7.0	15	53.009	84.2	+3.5726-	.0217	+ .003	+ .0021	0	.11	.68	.21	
5478	Groomb 3432	5.8	16	2.237	69.4	+2.0622+	.0048	+ .006	+ .0014	0	.12	.56	.26	
5479	Br 2774	6.2	16	8.003	57.7	+2.9686-	.0020	+ .004	+ .0028	0	.15	.50	.30	
5480	$\alpha$ Cephei	2.4	16	11.598	65.6	+1.4353-	.0069	- .005	+ .0217+	2	.03	.13	.06	
5481	Dpt 2590	5.9	16	29.628	76.7	+1.6626-	.0009	+ .001	+ .0010	0	.11	.42	.18	
5482	Arm 4628	6.0	16	33.055	80.2	+2.7087+	.0032	+ .005	+ .0154+	1	.11	.84	.27	
5483	Br 2773	7.3	16	36.731	63.9	+3.2243-	.0089	+ .003	+ .0017	0	.11	.51	.26	
5484	$\iota$ Capricorni	4.3	16	40.780	69.5	+3.3460-	.0130	+ .003	+ .0022	0	.04	.27	.12	
5485	Groomb 3436 <i>n.p.</i>	7.9	16	45.357	68.6	+1.9313+	.0034	+ .005	- .0005-	1	.16	.54	.28	
5486	Br 2796	6.4	16	47.883	71.9	-0.5859-	.1342	- .202	+ .0049+	1	.10	.44	.19	
5487	Pi 87	5.9	17	16.629	83.1	+3.4468-	.0167	+ .003	+ .0030	0	.11	.56	.19	
5488	Br 2788	5.3	17	17.708	70.8	+1.2508-	.0125	- .011	+ .0004	0	.10	.38	.18	
5489	Br 2780	4.3	17	27.685	68.4	+2.7734+	.0019	+ .005	+ .0072	0	.04	.24	.11	
5490	Br 2776	6.4	17	34.611	69.3	+3.2188-	.0089	+ .003	- .0029	0	.11	.39	.20	
5491	$\beta$ Equulei	5.2	17	55.801	70.5	+2.9788-	.0021	+ .004	+ .0036	0	.13	.44	.21	
5492	L 8793 <i>m</i>	6.1	18	2.381	90.2	+3.8405-	.0349	+ .005	+ .0022	0	.13	.78	.20	
5493	$\gamma$ Pavonis	4.3	18	10.691	70.0	+5.0170-	.1241	+ .048	+ .0134-	23	.09	.40	.18	
5494	Br 2778	5.6	18	29.375	78.9	+3.4085-	.0154	+ .003	- .0010+	1	.09	.44	.16	
5495	Groomb 3441	6.0	18	31.990	68.1	+2.0820+	.0050	+ .006	+ .0040	0	.12	.57	.27	
5496	Br 2781	5.6	18	43.658	72.0	+3.2828-	.0108	+ .003	+ .0059	0	.10	.42	.19	
5497	L 8792	6.4	19	7.579	80.3	+4.3089-	.0642	+ .015	- .0001	0	.12	.63	.22	
5498	Pi 114	5.8	19	28.452	69.2	+2.7006+	.0032	+ .006	+ .0090	0	.14	.69	.31	
5499	Groomb 3548	7.7	19	35.03	85.1	-11.498-	3.286		+ .022+	+ 12	.05	.28	.08	
5500	Br 2783	6.7	21	19.38.958	70.4	+3.1287-	.0061	+ .003	- .0012	0	.15	.57	.27	

5455  $\odot \Sigma$  535.  $5^M 1-5^M 6 < 1''$ ; 5.7 yrs.  $\pm$ ;  $\Sigma$  2777.  $10^M 5$  43" 19°, rel. mot.  
 5471  $\odot \Sigma$  433.  $10^M 15''$  220°;  $10^M 21''$  180°.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
5451	-53 40 37.32	86.6	+14.657+ .421	-.35	-.043 0	.12	.73	.21	23 G Indi
5452	+29 48 59.59	68.8	+14.643+ .247	-.08	-.059 0	.03	.16	.07	
5453	+59 34 30.95	69.8	+14.739+ .145	-.04	+ .003 0	.06	.26	.12	$\Sigma$ 2780. $6^M 2-7^M 2$ 1'' 2 225°
5454	-36 37 31.74	93.4	+14.760+ .364	-.23	+ .006 0	.15	1.07	.23	60 G Microscopii
5455	+ 9 36 5.32	67.9	+14.454+ .282	-.11	-.303 0	.06	.23	.12	*
5456	-21 4 0.82	70.6	+14.775+ .331	-.18	-.002 0	.08	.26	.13	
5457	-15 35 13.57	62.5	+14.801+ .321	-.16	+ .008 0	.07	.26	.14	29 Capricorni
5458	+59 41 6.39	65.0	+14.782+ .144	-.04	-.012 0	.12	.47	.24	
5459	+40 43 54.33	69.0	+14.837+ .220	-.06	+ .029 0	.10	.42	.20	$0\Sigma$ 432. $8^M 0-8^M 4$ 1'' 3 126°
5460	+37 37 5.88	70.4	+15.254+ .230	-.07	+ .427+ 1	.04	.21	.09	Clark. $3^M 8-7^M 5$ 1'' $\pm$ 45 yrs. $\pm$
5461	+ 4 50 3.27	76.8	+14.742+ .289	-.13	-.087 0	.04	.17	.07	
5462	- 9 37 52.92	68.4	+14.833+ .310	-.15	-.002 0	.11	.40	.20	14 Aquarii
5463	-49 8 1.20	89.0	+14.757+ .396	-.30	-.086 0	.12	.69	.19	24 G Indi
5464	-32 35 25.92	79.8	+14.856+ .350	-.22	-.034 0	.08	.39	.14	4 Piscis Aust
5465	-18 24 14.92	69.2	+14.914+ .322	-.18	-.004 0	.12	.37	.19	30 Capricorni
5466	-17 52 54.48	73.0	+14.940+ .321	-.18	+ .003 0	.12	.49	.22	31 Capricorni
5467	-53 52 6.37	81.4	+14.867+ .414	-.35	-.074+ 1	.14	.64	.23	h 5258. $7^M 2$ 4'' 282°
5468	- 4 56 22.02	67.5	+14.971+ .300	-.15	+ .018 0	.11	.39	.20	15 Aquarii
5469	+38 58 31.17	69.8	+14.978+ .222	-.07	-.006 0	.06	.21	.10	
5470	-16 35 58.90	71.0	+14.973+ .317	-.17	-.023 0	.13	.50	.23	
5471	+34 28 35.97	62.2	+14.982+ .232	-.08	-.021 0	.09	.36	.19	*
5472	+55 22 39.72	65.1	+15.040+ .167	-.04	+ .011 0	.09	.40	.20	
5473	-41 13 56.25	87.5	+15.035+ .366	-.26	.000+ 1	.12	.67	.19	L 8773. 65 G Micr $\theta^1$
5474	+43 31 29.37	64.1	+15.034+ .208	-.06	-.023 0	.09	.47	.24	68 Cygni A
5475	-21 14 35.33	79.1	+15.031+ .322	-.18	-.062 0	.12	.47	.19	
5476	- 4 59 4.82	74.7	+15.128+ .295	-.15	+ .008 0	.08	.33	.14	16 Aquarii
5477	-29 35 25.44	84.6	+15.086+ .336	-.21	-.037 0	.10	.56	.17	66 G Microscopii
5478	+40 5 13.25	63.8	+15.128+ .191	-.05	-.004 0	.11	.48	.25	
5479	+ 6 55 50.12	54.8	+15.124+ .278	-.12	-.013 0	.13	.52	.32	9 Equulei
5480	+62 9 42.48	64.2	+15.190+ .133	-.04	+ .049+ 2	.02	.11	.06	
5481	+58 12 0.69	69.6	+15.147+ .152	-.04	-.011 0	.10	.34	.17	$\Sigma$ 2790. $10^M$ 5'' 46°
5482	+23 26 4.09	80.6	+15.025+ .253	-.09	-.136+ 1	.08	.65	.21	34 Vulpeculæ
5483	- 9 45 8.17	67.7	+15.117+ .301	-.16	-.048 0	.10	.73	.32	
5484	-17 15 37.83	65.5	+15.174+ .313	-.17	+ .006 0	.05	.24	.12	
5485	+52 33 12.15	54.0	+15.239+ .178	-.04	+ .066 0	.12	.42	.26	$\Sigma$ 2789. $8^M 1$ 6'' 117°
5486	+76 35 28.31	70.5	+15.185- .062	-.22	+ .010 0	.10	.35	.17	
5487	-23 5 45.50	82.6	+15.208+ .321	-.19	+ .005 0	.11	.57	.19	87 G Capricorni
5488	+64 26 51.89	61.8	+15.205+ .112	-.04	+ .001 0	.09	.28	.16	6 Cephei
5489	+19 22 35.20	77.6	+15.271+ .258	-.10	+ .058+ 1	.04	.21	.08	1 Pegasi *
5490	- 9 44 44.40	70.8	+15.194+ .299	-.16	-.026 0	.10	.41	.19	17 Aquarii
5491	+ 6 23 0.45	70.6	+15.246+ .276	-.13	+ .006 0	.11	.42	.20	
5492	-41 26 6.80	87.5	+15.249+ .357	-.26	+ .003 0	.11	.64	.18	67 G Microscopii $\theta^2$ *
5493	-65 49 6.76	70.8	+16.065+ .469	-.53	+ .811+ 1	.08	.34	.15	
5494	-21 16 37.43	76.7	+15.145+ .315	-.18	-.127 0	.09	.38	.15	33 Capricorni
5495	+48 57 36.64	64.2	+15.337+ .190	-.05	+ .063 0	.11	.49	.25	
5496	-13 18 26.44	69.8	+15.288+ .304	-.17	+ .003+ 1	.09	.37	.18	18 Aquarii
5497	-55 5 32.60	76.4	+15.349+ .399	-.36	+ .041 0	.10	.47	.19	34 G Indi $\gamma$
5498	+23 50 39.56	67.6	+15.345+ .248	-.09	+ .018+ 1	.11	.58	.27	
5499	+86 37 24.54	88.3	+15.346- 1.085		+ .013+ 2	.05	.35	.09	
5500	- 3 49 37.45	68.6	+15.290+ .287	-.15	-.047 0	.12	.44	.22	20 Aquarii

5489  $\Sigma$  App.  $8^M 6$  36'' 311°.5492  $\beta$  766.  $6^M 5-7^M 7$  1'' 290°.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		M	h m s		s s	s	s	"	"	"
5501	L 8782	5.8	21 19 48.639	86.5	+5.4423-.1642	+.089	+.0154- I	.18	.88	.28
5502	Br 2782	5.9	19 50.639	74.8	+3.2276-.0090	+.003	+.0010+ I	.09	.38	.16
5503	Br 2784	5.8	20 4.057	63.4	+3.1305-.0062	+.003	-.0017 0	.14	.45	.25
5504	Pi 120	5.9	20 7.576	63.8	+2.6612+.0037	+.006	+.0028 0	.12	.69	.34
5505	L 8808	6.0	20 7.998	87.6	+3.7642-.0310	+.005	+.0148- I	.13	.64	.19
5506	L 8809	5.8	20 36.803	89.2	+3.8645-.0373	+.006	-.0058 0	.11	.66	.18
5507	$\xi$ Capricorni	3.8	20 57.559	77.6	+3.4325-.0166	+.003	.0000 0	.05	.24	.09
5508	Groomb 3477 m	7.7	21 31.390	68.5	-1.6635-.2747	-.539	+.0601+12	.13	.58	.27
5509	Br 2832	7.2	21 32.97	71.6	-4.805-.880		+.013+.13	.09	.39	.17
5510	Br 2787	6.2	21 34.712	74.1	+3.4083-.0158	+.003	-.0018 0	.09	.36	.16
5511	Br 2792	5.6	21 39.253	63.4	+2.2010+.0062	+.007	+.0193+ I	.13	.50	.26
5512	Br 2791	6.1	21 41.812	75.2	+2.4486+.0058	+.006	+.0002 0	.10	.33	.16
5513	Br 2790	4.6	23 1.356	70.2	+3.4276-.0163	+.003	+.0095 0	.09	.30	.15
5514	L 8825	6.9	23 5.349	83.6	+3.5954-.0238	+.004	+.0016 0	.12	.72	.22
5515	Br 2793	5.5	23 15.586	79.4	+2.6415+.0042	+.006	+.0026 0	.08	.33	.13
5516	Pi 150	5.3	23 16.659	63.2	+2.4433+.0060	+.007	-.0001 0	.11	.62	.31
5517	Pulk <sub>ss</sub> 3131	5.3	23 18.576	87.4	+2.1284+.0059	+.007	+.0069 0	.11	.62	.18
5518	Pi 156	6.1	23 27.163	60.7	+1.9770+.0046	+.005	+.0026 0	.12	.51	.28
5519	Pi 153	5.9	23 51.842	73.6	+2.5601+.0052	+.006	+.0094 0	.16	.81	.34
5520	Pi 145	6.8	24 22.872	76.9	+3.3727-.0144	+.003	+.0017 0	.13	.54	.22
5521	Pi 154	7.2	25 11.807	66.2	+3.2925-.0115	+.003	+.0005 0	.15	.56	.28
5522	Br 2798	4.7	25 25.050	71.6	+2.7158+.0034	+.006	+.0012 0	.12	.52	.23
5523	Br 2799	5.4	25 45.502	83.3	+2.2111+.0064	+.007	+.0044- I	.06	.28	.09
5524	$\xi$ Gruis	5.5	25 46.107	86.2	+3.8119-.0356	+.007	-.0005 0	.15	.88	.26
5525	Br 2805	5.5	25 50.298	71.7	+1.1668-.0164	-.015	-.0020 0	.09	.34	.16
5526	Br 2794	6.3	26 11.744	89.0	+3.6384-.0265	+.005	-.0027 0	.11	.78	.20
5527	$\beta$ Aquarii	2.9	26 17.715	69.6	+3.1608-.0071	+.004	+.0010 0	.02	.14	.06
5528	Groomb 3476	7.5	26 33.454	64.2	+1.9935+.0051	+.006	+.0019 0	.14	.62	.32
5529	Pi 161	6.6	26 47.688	83.7	+3.4642-.0184	+.004	+.0050 0	.11	.62	.20
5530	L 8838	5.8	26 54.827	89.8	+3.9063-.0413	+.009	-.0023 0	.13	.88	.22
5531	Groomb 3480	6.2	27 0.478	69.9	+1.9958+.0051	+.006	+.0024 0	.12	.56	.26
5532	$\beta$ Cephei	3.3	27 22.311	65.6	+0.7909-.0351	-.039	+.0022 0	.03	.13	.06
5533	Groomb 3511	6.2	27 46.807	71.8	-1.6246-.2791	-.574	+.0179+ 9	.06	.32	.14
5534	Pi 171	7.4	28 8.801	75.9	+3.3200-.0126	+.004	+.0019 0	.13	.62	.25
5535	Groomb 3489	5.7	28 14.515	78.4	+1.6479-.0009	+.002	-.0002 0	.12	.48	.19
5536	Groomb 3508	7.7	28 54.497	59.9	-0.1974-.1092	-.167	+.0048+ 3	.14	.58	.32
5537	Br 2800	6.0	29 14.184	77.7	+3.3765-.0152	+.004	-.0018 0	.10	.33	.15
5538	Br 2801	7.1	29 17.597	76.0	+3.3815-.0152	+.004	+.0006 0	.15	.52	.23
5539	Arg N 22436	5.8	29 24.556	95.0	+2.1191+.0065	+.007	+.0036 0	.11	.86	.17
5540	Pi 184	6.7	29 32.822	85.4	+3.4393-.0176	+.004	+.0055 0	.11	.62	.19
5541	L 8842	6.5	30 4.063	88.0	+4.8407-.1158	+.057	+.0025 0	.14	.84	.23
5542	Pi 190	6.1	30 4.397	74.4	+3.1343-.0064	+.004	-.0010 0	.14	.72	.29
5543	$\rho$ Cygni	4.1	30 13.130	66.6	+2.2529+.0073	+.008	-.0026+ I	.09	.34	.17
5544	$\nu$ Octantis	3.7	30 21.778	87.6	+6.8523-.3826	+.466	+.0140+16	.12	.70	.20
5545	Br 2802	6.0	30 23.149	80.7	+3.4870-.0196	+.004	+.0078 0	.11	.48	.18
5546	Br 2809	5.1	30 41.408	69.8	+2.4470+.0068	+.007	+.0098 0	.08	.33	.15
5547	Br 2803	6.3	30 48.635	82.8	+3.6162-.0259	+.006	+.0079 0	.14	.78	.25
5548	Groomb 3500	6.3	31 0.662	83.2	+2.0651+.0062	+.007	+.0007 0	.10	.54	.18
5549	$\epsilon$ Capricorni	4.7	31 28.950	72.2	+3.3652-.0148	+.004	+.0006 0	.06	.26	.11
5550	Dpt 2611	6.3	21 32 25.672	80.2	+3.0828-.0047	+.004	-.0013 0	.11	.48	.18



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5501	-69 56 14.76	84.4	+15.279+.505	-.66	-.067+ 1	.14	.77	.24	129 G Pavonis
5502	-10 10 28.08	72.9	+15.174+.296	-.16	-.174 0	.08	.34	.15	19 Aquarii
5503	- 3 59 8.42	65.4	+15.290+.286	-.15	-.070 0	.11	.41	.21	21 Aquarii
5504	+25 44 38.45	60.0	+15.357+.243	-.09	-.007 0	.12	.64	.34	
5505	-38 15 39.07	87.6	+15.350+.347	-.24	-.014+ 1	.14	.69	.21	68 G Microscopii
5506	-42 58 51.60	88.0	+15.398+.354	-.27	+ .007 0	.10	.56	.16	$\beta$ 767. $8^m_5$ 3" 145°
5507	-22 50 40.37	76.3	+15.434+.313	-.19	+ .023 0	.05	.21	.09	
5508	+79 55 25.75	65.7	+15.540-.156	-.47	+ .098+ 6	.10	.39	.20	$\Sigma$ 2801. $8^m_1$ - $8^m_8$ 1" 8 272°
5509	+83 50 11.10	61.4	+15.432-.452		-.011+ 1	.12	.42	.24	
5510	-21 37 43.73	77.0	+15.418+.310	-.19	-.027 0	.09	.37	.15	35 Capricorni
5511	+46 16 51.62	59.5	+15.494+.200	-.06	+ .045+ 2	.11	.40	.23	
5512	+36 14 6.81	69.2	+15.441+.221	-.08	-.011 0	.08	.27	.14	69 Cygni *
5513	-22 14 33.91	66.3	+15.517+.310	-.19	-.008+ 1	.10	.30	.16	36 Capricorni b
5514	-31 40 27.44	81.6	+15.509+.325	-.22	-.020 0	.11	.60	.20	1 G Piscis Aust
5515	+27 10 22.70	78.6	+15.560+.237	-.09	+ .022 0	.07	.34	.13	35 Vulpeculæ
5516	+36 40 55.15	63.5	+15.543+.218	-.08	+ .004 0	.08	.38	.20	70 Cygni
5517	+48 24 0.57	87.8	+15.572+.190	-.06	+ .031+ 1	.12	.60	.18	
5518	+52 27 50.60	56.7	+15.560+.175	-.05	+ .011 0	.12	.46	.27	
5519	+31 47 13.68	63.0	+15.634+.229	-.09	+ .062+ 1	.15	.64	.34	
5520	-19 35 3.12	76.5	+15.566+.302	-.18	-.034 0	.12	.51	.21	
5521	-14 43 44.91	68.4	+15.607+.293	-.17	-.038 0	.13	.48	.24	
5522	+23 12 0.93	72.0	+15.653+.241	-.10	-.004 0	.08	.39	.17	2 Pegasi
5523	+46 5 58.24	71.2	+15.780+.195	-.06	+ .104 0	.06	.24	.11	71 Cygni g
5524	-41 37 11.58	81.2	+15.684+.340	-.26	+ .008 0	.12	.64	.22	
5525	+66 22 21.92	68.1	+15.666+.099	-.04	-.014 0	.08	.27	.14	7 Cephei
5526	-34 23 7.33	81.1	+15.672+.322	-.23	-.027 0	.12	.63	.22	2 G Piscis Aust
5527	- 6 0 40.41	66.8	+15.698+.280	-.15	-.007 0	.02	.13	.06	W. H. $11^m_3$ 35" 319°
5528	+52 29 40.44	57.8	+15.730+.174	-.05	+ .011 0	.11	.44	.26	$\Sigma$ 2803. $9^m_5$ 25" 288°
5529	-25 1 56.04	84.1	+15.724+.307	-.20	-.008 0	.10	.51	.17	103 G Capricorni
5530	-45 17 26.48	90.0	+15.726+.346	-.28	-.012 0	.10	.80	.19	3 G Gruis
5531	+52 31 3.41	62.2	+15.751+.174	-.05	+ .007 0	.12	.50	.27	
5532	+70 7 18.04	63.1	+15.768+.065	-.06	+ .005 0	.02	.12	.06	$\Sigma$ 2806. $8^m_1$ 13" 250°
5533	+80 5 20.12	71.9	+15.776-.151	-.46	-.009+ 2	.08	.38	.16	
5534	-16 38 27.76	72.8	+15.698+.291	-.18	-.107 0	.12	.46	.21	
5535	+60 1 6.15	73.9	+15.816+.141	-.04	+ .006 0	.10	.39	.17	
5536	+75 57 49.83	59.7	+15.818-.024	-.16	-.028 0	.11	.55	.30	
5537	-20 31 48.76	81.6	+15.888+.294	-.19	+ .024 0	.09	.35	.13	37 Capricorni
5538	-20 41 45.42	69.6	+15.802+.295	-.19	-.064 0	.12	.36	.19	38 Capricorni
5539	+49 32 1.98	96.8	+15.896+.182	-.05	+ .023 0	.12	.92	.17	
5540	-23 53 57.42	86.1	+15.877+.300	-.20	-.003 0	.09	.58	.17	107 G Capricorni
5541	-65 16 17.91	87.1	+15.905+.423	-.51	-.003 0	.12	.71	.20	40 G Indi
5542	- 4 25 44.13	74.1	+15.922+.271	-.16	+ .014 0	.11	.58	.24	
5543	+45 8 58.36	49.4	+15.821+.193	-.07	-.095 0	.08	.29	.20	
5544	-77 50 1.94	88.0	+15.694+.602	-1.24	-.230+ 1	.10	.71	.19	
5545	-26 37 3.42	82.5	+15.895+.303	-.20	-.030+ 1	.10	.45	.16	8 Piscis Aust (5 G)
5546	+38 5 7.77	67.8	+16.032+.210	-.08	+ .091+ 1	.06	.28	.13	72 Cygni
5547	-33 29 42.99	82.2	+15.948+.313	-.22	+ .001+ 1	.12	.60	.21	7 Piscis Aust (6 G)
5548	+51 15 9.46	80.6	+15.957+.176	-.06	-.001 0	.09	.44	.16	
5549	-19 54 51.22	70.3	+15.981+.290	-.19	-.002 0	.06	.26	.12	
5550	- 0 50 19.80	79.3	+16.015+.263	-.15	-.017 0	.09	.33	.14	$\Sigma$ 2809. $8^m_5$ 31" 163°

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup>	$\mu$ and 100 $\Delta\mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
5551	$\xi$ Aquarii	4.8	21 32 25.743	75.6	+ 3.1969-.0082	+ .004	+ .0075 0	.04	.21	.08
5552	Br 2812	6.3	32 44.709	54.0	+ 2.9893-.0019	+ .005	+ .0035 0	.14	.56	.34
5553	Br 2818	5.2	32 56.387	84.6	+ 2.4016+.0072	+ .008	-.0004 0	.04	.28	.08
5554	Groomb 3513	9.0	32 58.560	64.8	+ 1.8485+.0036	+ .006	+ .0087+ 1	.16	.64	.33
5555	Br 2814	5.5	33 4.629	71.1	+ 2.8062+.0025	+ .006	+ .0070 0	.11	.51	.23
5556	Br 2813	5.9	33 31.442	76.3	+ 3.0057-.0022	+ .005	+ .0076 0	.10	.32	.15
5557	Pi 228	7.0	33 45.012	70.8	+ 2.4320+.0072	+ .008	+ .0013 0	.14	.60	.27
5558	Arm 4714	6.0	34 21.509	85.1	+ 2.7948+.0029	+ .006	+ .0083 0	.11	.58	.18
5559	Br 2816 <i>m</i>	7.2	34 22.227	67.9	+ 3.0950-.0046	+ .005	+ .0157 0	.13	.57	.27
5560	Br 2817	5.4	34 28.859	60.6	+ 3.0455-.0035	+ .005	-.0020 0	.12	.57	.31
5561	Pi 241	7.2	34 30.856	73.8	+ 1.5980-.0024	.000	+ .0069- 1	.14	.62	.26
5562	$\gamma$ Capricorni	3.7	34 33.098	67.8	+ 3.3294-.0131	+ .004	+ .0131 0	.04	.21	.10
5563	Br 2830	4.9	35 14.269	68.4	+ 1.6117-.0015	+ .001	+ .0007 0	.09	.34	.17
5564	$\lambda$ Octantis	5.5	35 36.111	75.8	+ 9.685-.1.076		+ .030- 14	.06	.69	.24
5565	Pi 248	6.2	35 51.449	85.3	+ 1.8605+.0040	+ .006	+ .0005 0	.05	.32	.09
5566	Br 2820	5.4	36 6.690	66.9	+ 3.2670-.0112	+ .005	-.0083+ 2	.09	.32	.16
5567	Br 2826	5.4	36 15.552	73.7	+ 2.3502+.0078	+ .008	+ .0047 0	.08	.40	.17
5568	Br 2819	5.4	36 19.135	78.6	+ 3.4235-.0174	+ .005	+ .0067 0	.08	.39	.15
5569	Br 2822	6.0	37 4.155	64.6	+ 3.0607-.0039	+ .005	-.0003 0	.14	.45	.25
5570	$\kappa$ Capricorni	4.8	37 4.517	68.7	+ 3.3560-.0145	+ .005	+ .0100 0	.08	.28	.14
5571	Pi 256	7.5	37 15.233	64.8	+ 1.8606+.0042	+ .006	-.0054 0	.18	.57	.32
5572	Br 2824	5.6	37 15.354	79.1	+ 3.0025-.0022	+ .005	+ .0015 0	.12	.36	.16
5573	Br 2831	6.2	37 32.877	75.5	+ 2.4103+.0078	+ .008	-.0009 0	.11	.36	.16
5574	Br 2823	6.2	37 37.101	65.6	+ 3.2784-.0117	+ .005	-.0003 0	.12	.40	.22
5575	Pi 243	6.4	37 37.979	77.2	+ 3.3625-.0150	+ .005	+ .0058 0	.12	.58	.23
5576	L 6460	6.7	37 38.82	73.2	+68.391-.88.544		+ .017+.07	.05	.28	.12
5577	Br 2854	7.4	37 46.396	70.6	+ 0.8545-.0337	-.042	+ .0210+ 8	.08	.33	.15
5578	L 8896	6.5	38 20.361	94.2	+ 3.7081-.0322	+ .009	+ .0085 0	.14	1.12	.23
5579	Br 3836	5.8	38 21.429	66.4	+ 2.4095+.0079	+ .008	+ .0014 0	.13	.42	.22
5580	Br 2845	4.8	38 32.614	61.4	+ 2.1268+.0076	+ .009	+ .0006 0	.08	.27	.15
5581	Br 2828	6.2	38 33.386	72.3	+ 3.2805-.0119	+ .005	-.0021 0	.11	.36	.17
5582	$\epsilon$ Piscis Aust	4.4	38 59.535	82.5	+ 3.5855-.0259	+ .007	+ .0029 0	.09	.51	.17
5583	Br 2841	5.6	39 5.286	66.3	+ 2.4074+.0080	+ .008	-.0019 0	.15	.48	.26
5584	$\epsilon$ Pegasi	2.4	39 16.479	71.5	+ 2.9464-.0005	+ .006	+ .0017 0	.02	.15	.06
5585	Br 2843	5.8	39 17.496	84.8	+ 3.4778+.0076	+ .008	+ .0032 0	.11	.46	.16
5586	Br 2833	7.5	39 35.284	77.5	+ 3.2043-.0088	+ .005	+ .0034 0	.13	.69	.26
5587	$\mu^1$ Cygni	4.9	39 40.165	76.4	+ 2.6803+.0060	+ .007	+ .0214+ 2	.08	.27	.12
5588	$\mu^2$ Cygni	5.9	39 40.366	82.8	+ 2.6761+.0059	+ .007	+ .0172+ 2	.13	.57	.20
5589	Br 2834	5.4	39 40.380	76.6	+ 3.2022-.0088	+ .005	+ .0007 0	.09	.39	.16
5590	Br 2837	4.5	39 46.579	71.4	+ 2.8404+.0022	+ .006	+ .0012 0	.13	.52	.24
5591	Pi 267	7.7	39 52.976	70.8	+ 2.6581+.0056	+ .007	-.0008 0	.13	.48	.23
5592	$\kappa$ Pegasi <i>m</i>	4.2	40 6.976	77.2	+ 2.7145+.0047	+ .007	+ .0024 0	.05	.34	.12
5593	$\mu$ Cephei	Var.	40 26.829	69.0	+ 1.8335+.0040	+ .006	-.0001 0	.16	.70	.33
5594	Br 2856	4.9	40 27.485	78.5	+ 0.8951-.0334	-.041	+ .0240+ 2	.04	.28	.10
5595	Br 2838	6.4	40 56.223	71.6	+ 3.2039-.0088	+ .005	+ .0008 0	.13	.44	.21
5596	$\lambda$ Capricorni	5.6	41 9.161	78.3	+ 3.2333-.0100	+ .005	+ .0016 0	.07	.32	.12
5597	Br 2846	7.4	41 18.686	75.7	+ 3.2379-.0100	+ .005	+ .0018 0	.14	.62	.25
5598	Br 2851	6.8	41 24.481	69.7	+ 2.7170+.0048	+ .007	+ .0010 0	.15	.84	.37
5599	Br 2850	5.6	41 28.284	64.5	+ 2.7584+.0040	+ .006	+ .0005 0	.14	.56	.29
5600	$\delta$ Capricorni	2.8	21 41 31.354	68.3	+ 3.3163-.0125	+ .005	+ .0179+ 1	.04	.20	.09

5552  $\Sigma$  App.  $7^M 4 39'' 349^\circ$ .  
 5559  $\beta$  1212.  $7^M 7-8^M 2 0'' 5 270^\circ$ , slow binary.

5556 h 941.  $12^M 26'' 337^\circ$ , rel. mot.  
 5565  $\Sigma$  2816.  $8^M 12'' 120^\circ$ ;  $8^M 20'' 339^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5551	- 8 18 10.08	73.5	+16.009+ .274	-.16	-.024+ 1	.04	.19	.08	
5552	+ 6 10 8.08	48.7	+16.044+ .255	-.13	-.005 0	.11	.43	.29	3 Pegasi *
5553	+39 57 50.86	75.1	+16.068+ .203	-.08	+ .008 0	.06	.24	.10	74 Cygni
5554	+57 1 20.63	56.6	+16.065+ .155	-.04	+ .004+ 1	.13	.47	.28	$\Sigma$ 2813. $9^M 5 10'' 273^\circ$
5555	+18 52 6.70	71.5	+16.081+ .238	-.11	+ .014+ 1	.09	.38	.17	5 Pegasi
5556	+ 5 19 13.09	72.3	+16.116+ .255	-.14	+ .026+ 1	.09	.30	.14	4 Pegasi *
5557	+38 52 0.87	66.8	+16.098+ .204	-.08	-.004 0	.12	.48	.24	
5558	+19 48 50.24	85.4	+16.136+ .236	-.11	+ .003+ 1	.12	.57	.18	
5559	- 0 30 12.26	66.3	+16.149+ .262	-.15	+ .015+ 1	.11	.41	.21	24 Aquarii *
5560	+ 1 47 37.83	56.3	+16.057+ .256	-.14	-.083 0	.13	.53	.31	25 Aquarii $\delta$
5561	+61 51 2.85	61.5	+16.268+ .132	-.04	+ .126+ 1	.11	.41	.23	
5562	-17 6 50.75	69.1	+16.123+ .282	-.18	-.021+ 1	.04	.20	.09	
5563	+61 37 50.71	63.2	+16.181+ .132	-.04	+ .002 0	.08	.28	.15	9 Cephei
5564	-83 10 43.43	76.2	+16.178+ .828		-.020+ 3	.05	.60	.21	h 5278. $7^M 7 2'' 8 75^\circ$
5565	+57 2 12.15	75.2	+16.213+ .153	-.05	+ .002 0	.06	.24	.10	$\beta$ 1143. $14^M 2'' 325^\circ$
5566	-14 29 37.20	71.7	+15.916+ .272	-.18	-.308- 1	.08	.30	.14	42 Capricorni
5567	+42 49 10.91	70.2	+16.245+ .195	-.07	+ .013 0	.07	.31	.14	75 Cygni *
5568	-23 42 55.17	82.5	+16.142+ .286	-.20	-.093+ 1	.08	.34	.12	41 Capricorni
5569	+ 0 49 46.78	72.3	+16.259+ .254	-.15	-.014 0	.10	.34	.16	26 Aquarii
5570	-19 19 19.82	60.5	+16.266+ .279	-.19	-.007+ 1	.08	.26	.15	
5571	+57 7 38.73	73.6	+16.263+ .151	-.05	-.019 0	.14	.45	.29	$\Sigma$ 2819. $8^M 5 13'' 58^\circ$
5572	+ 5 13 28.05	75.4	+16.280+ .248	-.14	-.003 0	.11	.34	.16	7 Pegasi
5573	+40 21 3.56	66.0	+16.247+ .198	-.08	-.051 0	.09	.26	.14	76 Cygni
5574	-14 51 25.08	65.9	+16.328+ .271	-.18	+ .027 0	.11	.37	.20	44 Capricorni
5575	-20 4 39.25	76.4	+16.280+ .279	-.19	-.022 0	.12	.54	.22	
5576	-89 19 3.45	74.8	+16.263+ 5.799		-.041+ 1	.04	.28	.11	54 G Octantis <i>B</i>
5577	+70 51 25.40	69.6	+16.211+ .067	-.06	-.098+ 2	.07	.31	.14	
5578	-39 0 22.54	93.4	+16.180+ .307	-.25	-.158+ 1	.16	1.18	.25	11 G Gruis
5579	+40 37 13.33	61.2	+16.343+ .197	-.08	+ .004 0	.11	.38	.22	77 Cygni
5580	+50 43 59.14	54.1	+16.347+ .173	-.06	-.001 0	.07	.23	.15	80 Cygni $\pi^1$
5581	-15 12 28.01	74.7	+16.348+ .269	-.18	-.001 0	.10	.46	.19	45 Capricorni
5582	-33 28 55.35	75.1	+16.285+ .295	-.22	-.086 0	.09	.42	.17	
5583	+40 41 51.57	59.8	+16.362+ .195	-.08	-.014 0	.12	.40	.23	
5584	+ 9 24 58.88	70.1	+16.384+ .240	-.13	-.001 0	.02	.14	.06	
5585	+37 49 32.23	78.5	+16.386+ .201	-.08	.000 0	.10	.38	.15	79 Cygni
5586	- 9 29 46.59	76.2	+16.418+ .262	-.17	+ .017 0	.11	.54	.21	
5587	+28 17 26.98	66.0	+16.165+ .219	-.09	-.240+ 2	.06	.22	.12	} $\Sigma$ 2822. $2'' 6$ and diminish- ing; slow binary.
5588	+28 17 25.28	74.8	+16.179+ .219	-.09	-.226+ 1	.12	.54	.22	
5589	- 9 32 30.59	74.5	+16.403+ .261	-.17	-.002 0	.08	.35	.15	46 Capricorni $c^1$
5590	+16 53 27.58	68.5	+16.387+ .231	-.12	-.023 0	.10	.39	.19	9 Pegasi
5591	+28 19 26.21	65.4	+16.356+ .215	-.09	-.060 0	.10	.41	.21	
5592	+25 11 6.68	75.0	+16.429+ .220	-.10	+ .002 0	.04	.25	.10	*
5593	+58 19 16.65	60.9	+16.442+ .146	-.05	-.002 0	.15	.65	.35	$4^M$ to $5^M$ $\rho^*$
5594	+70 51 3.26	74.6	+16.541+ .070	-.06	+ .097+ 2	.04	.24	.10	11 Cephei
5595	- 9 44 14.57	69.2	+16.478+ .260	-.17	+ .010 0	.10	.38	.18	47 Capricorni $c^2$
5596	-11 49 38.25	68.8	+16.468+ .261	-.17	-.011 0	.06	.24	.12	
5597	-12 9 21.61	74.0	+16.355+ .262	-.17	-.132 0	.12	.46	.20	50 Capricorni
5598	+25 7 20.99	65.4	+16.493+ .218	-.10	+ .001 0	.13	.77	.37	
5599	+22 29 14.81	64.5	+16.481+ .221	-.11	-.014 0	.11	.47	.24	12 Pegasi
5600	-16 34 52.16	67.8	+16.202+ .269	-.18	-.295+ 2	.04	.18	.09	

5567 Clark.  $10^M 2'' 6 325^\circ$ ;  $9^M 5 54'' 255^\circ$ .5592  $\beta$  989.  $4^M 7-5^M 4 < 0'' 4$ , binary, 11 yrs.  $\pm$ ;  $10^M 12'' 299^\circ$ .5593  $\beta$  690.  $12^M 19'' 260^\circ$ .



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors. a Ep. 100 $\mu$ a 10		
		M	h m s		s s	s	s	"	"	"
5601	L 8912	5.8	21 41 45.593	88.0	+3.9215-.0461	+0.014	+0.0144+ 1	.12	.75	.20
5602	Br 2852	6.6	41 50.694	70.8	+2.7282+.0049	+0.007	+0.0108 0	.15	.75	.33
5603	Br 2861	5.5	41 51.128	64.2	+0.7495-.0414	-.053	-.0099- 1	.08	.28	.15
5604	$\theta$ Piscis Aust	5.2	41 52.129	78.1	+3.5313-.0239	+0.006	-.0028 0	.11	.54	.20
5605	Br 2849	5.6	42 9.732	76.9	+3.0439-.0032	+0.005	+0.0009 0	.09	.30	.13
5606	L 8903	5.8	42 15.020	91.4	+4.7050-.1147	+0.067	-.0012 0	.18	1.11	.27
5607	$\circ$ Indi	5.6	42 19.844	82.0	+5.1500-.1651	+0.126	-.0084+ 2	.12	.66	.22
5608	$\nu$ Cephei	4.5	42 33.804	70.3	+1.7302+.0019	+0.004	-.0003 0	.05	.22	.10
5609	Br 2855	4.4	43 5.870	83.6	+2.2127+.0086	+0.009	+0.0004 0	.04	.26	.08
5610	Pi 290	7.1	43 47.575	69.5	+3.1454-.0068	+0.005	-.0038 0	.15	.62	.29
5611	L 8934	7.3	44 7.891	85.8	+3.4685-.0208	+0.006	+0.0013 0	.13	.86	.24
5612	Groomb 3571	7.4	44 10.088	68.3	+2.4783+.0082	+0.008	-.0004 0	.11	.63	.29
5613	Pi 291	6.4	44 16.836	75.1	+3.2471-.0107	+0.005	-.0001 0	.13	.52	.22
5614	Br 2862	5.8	44 28.291	61.3	+1.7691+.0030	+0.005	-.0008 0	.14	.50	.28
5615	Groomb 3590	6.7	45 15.336	67.0	+1.0688-.0236	-.027	-.0011 0	.09	.40	.19
5616	Br 2858	5.5	45 23.157	72.4	+2.8535+.0024	+0.006	+0.0051 0	.09	.30	.14
5617	Br 2859	5.3	45 25.235	62.9	+2.6518+.0064	+0.008	+0.0020 0	.09	.42	.22
5618	Pi 303	6.4	46 8.629	80.9	+3.3368-.0143	+0.006	+0.0094 0	.13	.80	.26
5619	Br 2865	6.7	46 23.293	79.5	+1.7557+.0029	+0.006	+0.0002 0	.10	.51	.19
5620	Groomb 3591	6.8	46 49.154	69.2	+1.3959-.0083	-.007	-.0030+ 1	.15	.54	.27
5621	Pi 312	5.9	46 52.497	75.4	+2.8171+.0033	+0.007	+0.0024 0	.16	.72	.30
5622	Pi 314	7.1	47 32.107	68.6	+3.1302-.0061	+0.005	+0.0009 0	.15	.62	.30
5623	$\mu$ Capricorni	5.3	47 50.700	74.1	+3.2754-.0112	+0.005	+0.0211 0	.04	.20	.08
5624	$\gamma$ Gruis	3.1	47 52.562	82.0	+3.6474-.0310	+0.009	+0.0093 0	.07	.36	.12
5625	Br 2863	5.8	48 2.017	70.6	+2.6756+.0062	+0.008	-.0045 0	.10	.34	.17
5626	Pulk <sub>ss</sub> 3196	6.9	48 15.253	80.1	+3.2108-.0093	+0.005	+0.0001 0	.08	.42	.15
5627	Br 2864	5.1	48 30.681	78.2	+2.7272+.0053	+0.007	+0.0001 0	.03	.21	.07
5628	Groomb 3598	6.9	48 37.413	92.0	+2.0296+.0080	+0.009	+0.0049 0	.15	.58	.18
5629	Br 2866	6.1	48 37.975	69.8	+2.0264+.0080	+0.009	+0.0018 0	.11	.38	.18
5630	Pulk <sub>ss</sub> 3200	5.8	48 55.031	84.7	+2.8216+.0034	+0.007	+0.0011 0	.11	.52	.18
5631	Pi 320	6.1	48 57.016	81.3	+3.1352-.0062	+0.005	+0.0028 0	.07	.52	.16
5632	Br 2868	7.1	49 44.817	62.5	+2.0194+.0080	+0.009	+0.0032 0	.08	.34	.18
5633	Br 2867	6.9	49 49.464	59.6	+2.0983+.0088	+0.010	-.0015 0	.12	.52	.29
5634	L 8964	5.8	50 21.773	85.4	+3.6245-.0308	+0.010	-.0020 0	.13	.68	.21
5635	$\delta$ Indi	4.6	51 6.916	81.0	+4.1143-.0660	+0.029	+0.0064 0	.12	.63	.22
5636	L 8927	7.0	51 25.900	85.0	+6.4502-.3910	+0.596	-.0080+ 1	.11	.78	.22
5637	L 8959	6.5	51 25.989	77.6	+4.2775-.0812	+0.41	-.0014 0	.15	.70	.27
5638	Br 2871	7.1	51 26.314	67.2	+2.1298+.0094	+0.010	+0.0169+ 1	.12	.52	.26
5639	Br 2872	6.1	51 31.430	68.1	+2.0125+.0082	+0.009	-.0009 0	.07	.26	.13
5640	Br 2880	6.9	51 36.952	76.1	+0.7267-.0475	-.069	+0.0107+ 2	.05	.28	.11
5641	Br 2869	5.7	52 3.791	61.5	+2.9250+.0008	+0.007	-.0020 0	.09	.34	.19
5642	Radcl 5481	6.0	52 53.689	92.6	+1.5752-.0020	.000	+0.0016 0	.15	.82	.21
5643	Br 2870	6.5	52 58.792	69.6	+3.1469-.0066	+0.006	+0.0019 0	.11	.46	.22
5644	Pi 344	7.4	53 0.914	68.2	+3.2372-.0106	+0.006	+0.0007 0	.15	.63	.30
5645	Pi 343	6.6	53 9.224	81.6	+3.3523-.0160	+0.006	+0.0010 0	.08	.57	.18
5646	L 8976	5.7	53 15.261	87.0	+3.6419-.0322	+0.011	+0.0037 0	.15	.78	.23
5647	Br 2894	7.0	53 18.668	76.6	-.05601-.1826	-.385	+0.0041- 1	.10	.39	.16
5648	L 8982	7.3	53 39.481	84.8	+3.3932-.0180	+0.006	+0.0046 0	.12	.84	.24
5649	L 8984	7.7	53 40.423	89.1	+3.3793-.0172	+0.006	+0.0048 0	.12	.64	.18
5650	Pi 360	5.4	21 53 49.897	72.0	+1.6899+.0017	+0.004	-.0014 0	.09	.46	.20

5601 9<sup>M</sup> 46''  $\circ$ , relative motion.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>rd</sup>	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5601	-47 45 30.65	87.0	+16.202+.318	-.30	-.307+1	.10	.64	.18	13 G Gruis *
5602	+25 5 59.79	67.6	+16.527+.219	-.10	+.013+1	.13	.75	.34	
5603	+71 51 42.11	62.6	+16.483+.054	-.07	-.031-1	.08	.28	.16	78 Draconis
5604	-31 21 40.15	78.2	+16.509+.285	-.22	-.006 0	.11	.53	.20	h 5296. 11 <sup>M</sup> 36" 339°
5605	+2 13 24.47	74.3	+16.526+.244	-.15	-.003 0	.08	.25	.12	27 Aquarii, 11 Pegasi
5606	-65 10 33.76	86.6	+16.532+.381	-.48	-.002 0	.14	.75	.22	54 G Indi
5607	-70 5 40.31	84.3	+16.538+.417	-.62	.000-1	.11	.63	.20	
5608	+60 39 33.25	62.5	+16.549+.135	-.04	.000 0	.05	.17	.09	
5609	+48 50 48.01	79.1	+16.572+.174	-.06	-.003 0	.04	.19	.07	81 Cygni $\pi^2$
5610	-5 52 3.25	70.8	+16.565+.249	-.16	-.044 0	.13	.54	.25	
5611	-27 52 10.45	86.2	+16.595+.276	-.21	-.031 0	.14	1.07	.29	17 G Piscis Aust
5612	+38 29 29.44	65.6	+16.622+.195	-.08	-.006 0	.11	.53	.26	
5613	-13 11 21.09	77.7	+16.645+.257	-.18	+.012 0	.11	.48	.19	
5614	+60 13 42.54	54.7	+16.645+.137	-.04	+.002 0	.11	.34	.22	12 Cephei
5615	+69 41 13.23	69.3	+16.656+.079	-.05	-.025 0	.07	.35	.16	
5616	+16 49 14.08	72.2	+16.625+.224	-.12	-.062 0	.08	.31	.14	13 Pegasi
5617	+29 42 30.28	57.2	+16.662+.207	-.09	-.027 0	.09	.39	.23	14 Pegasi
5618	-19 5 21.03	78.2	+16.638+.262	-.19	-.086+1	.13	.57	.22	
5619	+60 48 23.83	75.8	+16.719+.134	-.04	-.017 0	.09	.44	.17	
5620	+66 19 36.50	59.4	+16.685+.104	-.04	-.071 0	.13	.42	.25	$\Sigma$ 2836. 10 <sup>M</sup> 11" 153°
5621	+19 21 27.16	64.6	+16.773+.218	-.11	+.014 0	.14	.56	.29	W. H. 10 <sup>M</sup> 20" 94°; 12 <sup>M</sup> 24" 322°
5622	-4 27 44.70	69.2	+16.805+.242	-.16	+.014 0	.13	.50	.24	
5623	-14 1 21.44	72.2	+16.814+.255	-.18	+.009+2	.04	.20	.09	
5624	-37 50 6.90	75.8	+16.790+.283	-.24	-.017+1	.07	.30	.12	
5625	+28 19 30.64	67.4	+16.740+.205	-.09	-.074 0	.10	.32	.17	15 Pegasi
5626	-10 46 57.09	80.6	+16.826+.247	-.17	+.001 0	.08	.44	.15	
5627	+25 27 16.11	76.0	+16.838+.209	-.10	+.001 0	.04	.22	.08	16 Pegasi
5628	+55 19 17.33	81.6	+16.859+.154	-.05	+.017 0	.13	.42	.18	$\Sigma$ 2840. 19" 195°
5629	+55 19 35.86	62.3	+16.842+.153	-.05	-.001 0	.10	.28	.16	
5630	+19 11 47.81	79.7	+16.866+.216	-.11	+.010 0	.11	.45	.18	
5631	-4 44 42.88	75.8	+16.767+.240	-.16	-.091 0	.07	.42	.16	
5632	+55 44 27.37	50.4	+16.902+.152	-.05	+.007 0	.09	.36	.23	
5633	+53 31 32.92	57.8	+16.886+.157	-.06	-.013 0	.10	.43	.24	
5634	-37 43 39.01	83.8	+16.922+.276	-.24	-.002 0	.12	.61	.20	20 G Gruis
5635	-55 28 5.19	78.8	+16.936+.313	-.34	-.024 0	.10	.47	.18	
5636	-78 8 25.72	85.8	+17.001+.492	-1.14	+.027-1	.09	.73	.20	64 G Octantis
5637	-59 29 20.19	79.2	+17.003+.324	-.38	+.029 0	.13	.64	.24	61 G Indi ( $\kappa^1$ )
5638	+53 27 33.52	63.5	+17.056+.160	-.06	+.081+1	.11	.44	.23	
5639	+56 8 15.12	63.0	+16.975+.149	-.05	-.004 0	.06	.26	.14	13 Cephei ( $\mu$ )
5640	+73 13 45.08	76.0	+17.012+.050	-.07	+.029+1	.05	.25	.10	79 Draconis
5641	+11 36 4.55	62.0	+16.983+.218	-.13	-.021 0	.09	.36	.20	17 Pegasi
5642	+64 50 44.95	92.8	+17.045+.114	-.04	+.003 0	.12	.69	.17	O $\Sigma$ 457. 8 <sup>M</sup> 5 1" 3 246°
5643	-5 53 56.64	73.1	+16.934+.234	-.16	-.112 0	.09	.42	.18	
5644	-13 8 36.21	69.4	+17.117+.241	-.18	+.069 0	.13	.49	.24	
5645	-21 39 36.56	80.4	+17.050+.250	-.19	-.004 0	.08	.49	.17	134 G Capricorni
5646	-38 52 22.30	83.1	+17.048+.272	-.25	-.011 0	.13	.58	.20	24 G Gruis
5647	+79 4 41.63	76.7	+17.087-.050	-.24	+.026 0	.09	.32	.14	
5648	-24 18 37.39	87.0	+17.073+.252	-.20	-.004 0	.13	1.02	.27	97 G Aquarii
5649	-23 21 1.39	82.7	+17.090+.251	-.20	+.012 0	.11	.59	.20	
5650	+63 8 57.63	69.6	+17.093+.122	-.04	+.008 0	.08	.36	.16	

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.			
			M	h	m		s	s			s	"	"	"
5651	Paris 31310	7.3	21	54	15.161	81.1	+2.6509+	.0070	+ .008	-.0295	0	.08	.46	.16
5652	$\eta$ Piscis Aust <i>m</i>	5.6		55	5.609	76.2	+3.4564-	.0217	+ .008	+.0011	0	.07	.44	.16
5653	Br 2874	6.1		55	8.179	59.9	+2.9969-	.0012	+ .006	+.0003	0	.13	.40	.24
5654	$\epsilon$ Indi	4.9		55	42.776	82.5	+4.6243-	.0763	+ .036	+.4818-	14	.08	.60	.18
5655	Br 2875	5.9		55	58.018	68.5	+3.0709-	.0038	+ .006	+.0001	0	.12	.34	.18
5656	Br 2884	6.8		56	2.006	76.2	+2.0061+	.0088	+ .010	+.0007	0	.12	.45	.20
5657	Br 2877	6.0		56	11.398	53.0	+2.9770-	.0006	+ .006	-.0015	0	.16	.54	.35
5658	Br 2879	5.8		56	13.014	82.0	+2.9218+	.0014	+ .007	+.0036	0	.05	.30	.10
5659	Pi 361	6.7		56	41.623	81.7	+3.3074-	.0137	+ .006	+.0075	0	.08	.69	.21
5660	Br 2878 <i>m</i>	6.9		56	58.207	72.9	+3.2875-	.0131	+ .006	+.0004	0	.08	.30	.14
5661	Br 2900	5.2		57	49.386	68.9	+0.8762-	.0372	- .050	-.0150+	2	.06	.26	.12
5662	Br 2882	5.8		58	0.874	67.7	+3.1581-	.0072	+ .006	+.0024	0	.08	.34	.17
5663	$\alpha$ Aquarii	4.7		58	8.527	68.3	+3.1045-	.0050	+ .006	+.0009	0	.08	.27	.14
5664	Pi 383	5.9		58	10.603	64.8	+2.1925+	.0108	+ .012	-.0002	0	.12	.57	.28
5665	Br 2885	6.0		58	24.625	54.9	+2.9430+	.0008	+ .007	+.0009	0	.16	.56	.35
5666	Br 2881	6.8		58	38.039	81.9	+3.4691-	.0230	+ .009	+.0007	0	.13	.78	.26
5667	Br 2892	5.6		58	42.866	74.9	+2.0117+	.0092	+ .010	-.0008	0	.09	.30	.14
5668	L 9001	5.9		58	49.685	84.1	+4.2498-	.0834	+ .047	+.0042	0	.18	.78	.27
5669	Groomb 3655	5.7		58	54.498	73.4	+2.4169+	.0109	+ .011	-.0010	0	.11	.56	.23
5670	Pi 378	6.1		58	55.582	81.4	+3.4200-	.0202	+ .008	-.0001	0	.13	.57	.21
5671	Br 2887	5.5	21	59	38.860	69.8	+3.0875-	.0044	+ .006	-.0011	0	.11	.39	.20
5672	$\lambda$ Gruis	4.6	22	0	5.385	84.5	+3.6304-	.0335	+ .012	-.0028+	1	.10	.54	.17
5673	Pulk <sub>88</sub> 3231	6.0		0	36.235	92.2	+2.7480+	.0064	+ .008	+.0028	0	.13	.70	.18
5674	$\nu$ Pegasi	5.1		0	38.191	68.8	+3.0265-	.0018	+ .006	+.0073	0	.13	.52	.25
5675	Br 2902	6.9		0	38.383	75.0	+1.9521+	.0085	+ .010	+.0011	0	.11	.46	.20
5676	$\alpha$ Aquarii	2.9		0	38.891	66.9	+3.0826-	.0041	+ .006	+.0009	0	.02	.12	.06
5677	$\xi^1$ Cephei	6.5		0	52.699	65.6	+1.7344+	.0034	+ .005	+.0316+	4	.08	.93	.42
5678	Br 2906	5.5		0	53.135	67.4	+1.7944+	.0051	+ .007	+.0044	0	.12	.57	.27
5679	$\xi^2$ Cephei	4.7		0	53.751	65.0	+1.7358+	.0035	+ .005	+.0328+	4	.07	.48	.23
5680	$\iota$ Aquarii	4.4		1	2.239	72.8	+3.2445-	.0112	+ .006	+.0025	0	.04	.21	.09
5681	Br 2895	5.7		1	2.804	67.6	+2.7151+	.0072	+ .009	+.0024	0	.12	.57	.27
5682	Br 2935	7.3		1	49.154	67.1	-1.9283-	.4388	-1.310	-.0691-	38	.10	.42	.21
5683	Groomb 3709	7.7		1	55.843	71.0	-1.9260-	.4390	-1.311	-.0703-	40	.10	.54	.23
5684	$\alpha$ Gruis	1.7		1	55.969	68.6	+3.8011-	.0455	+ .019	+.0116	0	.06	.33	.15
5685	Br 2911	5.5		1	58.095	83.2	+1.8203+	.0058	+ .008	+.0016-	1	.06	.36	.11
5686	Pi 405	5.4		1	58.948	73.1	+2.4248+	.0114	+ .011	-.0001	0	.12	.51	.22
5687	Br 2910	5.3		2	3.982	70.1	+1.8476+	.0067	+ .009	+.0016	0	.11	.44	.21
5688	$\iota$ Pegasi	3.9		2	21.310	72.5	+2.7903+	.0063	+ .008	+.0220+	1	.04	.22	.09
5689	$\mu$ Piscis Aust	4.6		2	33.041	85.2	+3.5114-	.0260	+ .010	+.0057	0	.10	.70	.20
5690	$\nu$ Piscis Aust	5.2		2	34.918	80.5	+3.5243-	.0271	+ .010	+.0012	0	.16	1.05	.35
5691	Pi 406	6.0		2	42.795	97.4	+2.8556+	.0041	+ .008	+.0084	0	.15	.75	.18
5692	Br 2903	5.9		3	8.413	75.7	+2.8152+	.0049	+ .008	-.0039	0	.11	.44	.19
5693	Br 2898	5.9		3	29.979	65.9	+3.2962-	.0140	+ .007	-.0002	0	.11	.34	.18
5694	Pi 4	6.6		3	47.389	82.8	+2.0170+	.0101	+ .012	-.0024	0	.11	.46	.17
5695	L 9036	5.6		4	5.344	90.7	+3.5145-	.0270	+ .010	-.0029	0	.15	1.04	.25
5696	Br 2905	7.3		4	9.668	65.0	+3.1747-	.0080	+ .006	+.0036	0	.10	.36	.19
5697	Br 2904	6.9		4	13.259	72.7	+3.1690-	.0073	+ .006	+.0055+	1	.08	.40	.17
5698	$\tau$ Piscis Aust	5.1		4	17.336	84.7	+3.5283-	.0259	+ .010	+.0355-	2	.13	.92	.26
5699	L 9040	6.8		4	18.156	81.2	+3.4298-	.0215	+ .009	+.0023	0	.16	.90	.31
5700	Groomb 3692	7.1	22	4	43.797	84.6	+2.3737+	.0122	+ .012	+.0030	0	.10	.52	.17

5660 South.  $7^{\text{h}}5^{\text{m}}-7^{\text{h}}8^{\text{m}} 4'' 343^{\circ}$ .5675  $0^{\text{h}}2^{\text{m}} 46^{\text{s}}$ .  $11^{\text{h}} 11'' 298^{\circ}$ ; others near.



## CATALOGUE OF 6188 STARS FOR 1900

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No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. 6 Ep. 100 $\mu'$ 6 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5651	+29 20 43.57	79.9	+16.726+.192	-.10	-.378- 2	.07	.45	.15	$\beta$ 276. 6 <sup>m</sup> 2-6 <sup>m</sup> 6 1 <sup>s</sup> 8 115° 18 Pegasi Parallax 0".27 28 Aquarii
5652	-28 56 1.01	76.7	+17.145+.254	-.21	+.002 0	.08	.47	.18	
5653	+ 6 14 16.41	57.1	+17.140+.219	-.14	-.004 0	.11	.40	.24	
5654	-57 11 48.58	83.3	+14.579+.387	-.35	-2.591+46	.07	.61	.18	
5655	+ 0 7 28.57	71.3	+17.176+.223	-.15	-.006 0	.10	.32	.16	
5656	+57 10 45.91	72.9	+17.170+.144	-.06	-.015 0	.10	.32	.16	19 Pegasi 20 Pegasi
5657	+ 7 46 35.02	52.6	+17.187+.216	-.14	-.005 0	.14	.55	.35	
5658	+12 38 26.63	80.7	+17.137+.212	-.13	-.056 0	.05	.28	.09	29 Aquarii *
5659	-18 23 0.79	81.1	+17.152+.240	-.19	-.063 +1	.09	.61	.20	
5660	-17 26 47.55	71.4	+17.233+.238	-.18	+.006 0	.08	.29	.13	16 Cephei 30 Aquarii
5661	+72 42 13.93	69.9	+17.105+.056	-.06	-.160- 1	.05	.21	.10	
5662	- 7 0 20.65	68.0	+17.282+.226	-.16	+.009 0	.07	.32	.15	21 Pegasi
5663	- 2 38 17.56	67.2	+17.268+.222	-.16	-.011 0	.07	.24	.12	
5664	+52 23 59.68	57.8	+17.284+.155	-.06	+.003 0	.11	.45	.26	13 Piscis Aust 14 Cephei
5665	+10 54 12.17	53.5	+17.282+.210	-.14	-.009 0	.14	.50	.32	
5666	-30 24 3.59	76.7	+17.284+.248	-.21	-.017 0	.12	.60	.23	65 G Indi $\kappa^2$ $\beta$ 694. 5 <sup>m</sup> 8-8 <sup>m</sup> 5 0".6 354°
5667	+57 31 3.67	71.2	+17.301+.140	-.05	-.004 0	.09	.26	.13	
5668	-60 7 10.97	83.4	+17.260+.306	-.38	-.050 0	.14	.71	.24	25 G Piscis Aust
5669	+44 10 2.57	65.2	+17.276+.170	-.08	-.037 0	.12	.49	.25	
5670	-27 18 23.92	80.2	+17.296+.244	-.20	-.018 0	.13	.57	.21	32 Aquarii
5671	- 1 23 24.17	74.8	+17.304+.218	-.15	-.042 0	.10	.37	.16	
5672	-40 1 33.42	82.0	+17.245+.257	-.25	-.120 0	.10	.49	.17	15 Cephei *
5673	+26 11 13.44	89.9	+17.417+.192	-.11	+.030 0	.12	.69	.18	
5674	+ 4 34 10.28	64.5	+17.481+.213	-.14	+.092 0	.10	.39	.20	See $\xi^2$ 18 Cephei See $\xi^1$ , 7" 282°
5675	+59 19 47.15	64.6	+17.399+.134	-.05	+.010 0	.10	.36	.19	
5676	- 0 48 20.80	64.6	+17.383+.216	-.15	-.006 0	.02	.11	.06	23 Pegasi 2873. 14" 73°
5677	+64 8 27.49	63.2	+17.489+.120	-.04	+.090+ 2	.09	.81	.39	
5678	+62 37 58.91	62.8	+17.443+.123	-.04	+.043 0	.10	.50	.25	20 Cephei
5679	+64 8 25.72	51.7	+17.486+.121	-.04	+.086+ 2	.07	.27	.17	
5680	-14 21 17.82	69.2	+17.346+.228	-.18	-.060 0	.04	.21	.10	19 Cephei *
5681	+28 28 40.57	68.6	+17.390+.189	-.10	-.017 0	.10	.49	.23	
5682	+82 23 18.55	67.6	+17.407+.151	-.57	-.033- 5	.08	.32	.16	25 Pegasi 35 Aquarii
5683	+82 23 22.26	74.8	+17.419+.151	-.57	-.026- 5	.09	.59	.23	
5684	-47 26 43.14	69.6	+17.283+.266	-.28	-.162+ 1	.06	.30	.13	29 G Piscis Aust
5685	+62 17 51.67	81.9	+17.510+.123	-.05	+.064 0	.06	.27	.10	
5686	+44 31 39.84	63.8	+17.430+.167	-.08	-.017 0	.12	.44	.24	36 Aquarii
5687	+61 47 35.82	61.2	+17.450+.125	-.05	-.001 0	.09	.31	.18	
5688	+24 51 23.37	72.7	+17.481+.194	-.11	+.018+ 2	.04	.22	.09	Br 2901. 15 Piscis Aust 31 G Piscis Aust
5689	-33 28 35.49	83.5	+17.432+.244	-.22	-.040 0	.10	.60	.19	
5690	-34 31 53.02	74.0	+17.420+.244	-.23	-.053 0	.16	1.12	.43	25 Pegasi 35 Aquarii
5691	+18 59 10.42	93.1	+17.521+.197	-.12	+.043+ 1	.14	.60	.17	
5692	+21 12 57.19	73.1	+17.422+.193	-.12	-.075 0	.10	.37	.17	29 G Piscis Aust
5693	-19 0 33.05	59.5	+17.496+.226	-.19	-.016 0	.10	.30	.18	
5694	+58 21 9.12	74.1	+17.501+.135	-.05	-.023 0	.10	.35	.16	36 Aquarii
5695	-34 30 23.14	85.9	+17.558+.240	-.23	+.021 0	.16	1.28	.35	
5696	- 8 40 39.08	66.6	+17.583+.217	-.17	+.043 0	.09	.35	.18	Br 2901. 15 Piscis Aust 31 G Piscis Aust
5697	- 8 1 35.90	73.8	+17.092+.216	-.17	-.451 0	.07	.44	.18	
5698	-33 2 22.68	77.6	+17.552+.244	-.22	+.006+ 3	.12	.65	.24	25 Pegasi 35 Aquarii
5699	-28 47 2.30	75.2	+17.563+.235	-.21	+.017 0	.17	1.05	.40	
5700	+47 26 38.21	80.6	+17.545+.160	-.08	-.019 0	.09	.39	.15	

5687  $\beta$  697. 12<sup>m</sup> 20" 93°.

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$		Prob. Errors. a Ep. 100 $\mu$ a 10		
			<sup>m</sup>	<sup>h</sup>	<sup>s</sup>		<sup>s</sup>	<sup>s</sup>		<sup>s</sup>	"	"	"	
5701	Br 2915	5.8	22	4	47.716	73.0	+ 2.6547+	.0088	+ .010	-.0045	0	.05	.32	.13
5702	Br 2912	6.4		5	9.104	70.2	+ 3.1232-	.0057	+ .006	+.0016	0	.11	.54	.24
5703	$\theta$ Pegasi	3.7		5	9.337	77.2	+ 3.0266-	.0011	+ .006	+.0184	0	.04	.20	.08
5704	Br 2908	7.2		5	11.770	75.3	+ 3.2039-	.0094	+ .006	+.0031	0	.10	.40	.18
5705	Pi 12	7.6		5	14.091	64.6	+ 2.0139+	.0102	+ .012	+.0010	0	.14	.68	.34
5706	Br 2909	5.6		5	16.758	73.0	+ 3.2112-	.0098	+ .006	+.0018	0	.08	.34	.15
5707	Br 2913	6.4		5	20.918	72.4	+ 3.1299-	.0059	+ .006	+.0042	0	.11	.42	.19
5708	Pi 419	6.4		5	29.495	84.4	+ 3.3353-	.0159	+ .007	+.0078	0	.10	.57	.18
5709	$\pi$ Pegasi	4.3		5	32.710	78.6	+ 2.6606+	.0089	+ .010	-.0010	0	.04	.26	.09
5710	Br 2916	6.5		5	46.519	70.4	+ 2.8316+	.0048	+ .008	-.0021	0	.14	.52	.25
5711	Pi 15	6.3		7	1.525	75.8	+ 2.8954+	.0030	+ .007	-.0010	0	.11	.54	.21
5712	Br 2919	6.4		7	2.251	69.6	+ 3.2393-	.0112	+ .007	+.0012	0	.11	.39	.20
5713	Groomb 3703	5.5		7	16.666	70.4	+ 2.3261+	.0131	+ .013	+.0148+	1	.09	.48	.21
5714	$\zeta$ Cephei	3.6		7	23.029	74.9	+ 2.0758+	.0115	+ .013	+.0013	0	.03	.16	.07
5715	Br 2920	6.8		7	31.414	76.0	+ 3.1256-	.0060	+ .006	-.0042	0	.10	.44	.18
5716	Br 2932	5.0		7	53.181	82.2	+ 1.1628-	.0223	- .030	+.0061+	2	.05	.30	.10
5717	Br 2921	7.4		8	5.599	67.5	+ 3.2121-	.0099	+ .006	+.0017	0	.15	.51	.26
5718	$\psi$ Octantis	5.8		8	6.987	88.5	+ 6.0098-	.3665	+ .622	-.0135+	5	.18	.90	.26
5719	$\lambda$ Cephei	5.3		8	7.030	65.4	+ 2.0353+	.0111	+ .012	+.0029	0	.13	.42	.23
5720	Pi 19	5.7		8	7.397	79.5	+ 3.3788-	.0189	+ .008	+.0051	0	.10	.60	.21
5721	Br 2926	5.5		8	12.144	71.6	+ 2.1603+	.0127	+ .014	+.0287+	2	.10	.44	.19
5722	Br 2934	6.6		8	17.694	76.8	+ 1.1869-	.0206	- .025	-.0018	0	.09	.50	.19
5723	Groomb 3719	5.9		8	21.919	72.2	+ 1.3762-	.0103	- .011	-.0106-	3	.10	.50	.21
5724	Pi 29	5.6		8	22.279	72.0	+ 2.6502+	.0097	+ .010	+.0016	0	.15	.80	.34
5725	L 9061	6.7		8	32.087	87.5	+ 3.6809-	.0359	+ .015	+.0489+	1	.12	.68	.19
5726	$\lambda$ Piscis Aust	5.5		8	38.767	82.2	+ 3.4097-	.0210	+ .009	+.0018	0	.10	.50	.17
5727	Radcl 5609	5.7		8	43.437	80.0	+ 1.9792+	.0102	+ .013	-.0013	0	.13	.57	.21
5728	Br 2923	5.7		8	46.677	79.2	+ 3.3198-	.0158	+ .007	+.0010	0	.12	.48	.19
5729	$\epsilon$ Octantis	5.3		8	49.305	87.9	+ 6.9931-	.5926	+ 1.359	+.0137-	3	.12	.70	.20
5730	Pi 32	6.2		9	3.624	70.4	+ 2.7435+	.0078	+ .009	+.0034	0	.11	.75	.32
5731	Pi 33	6.8		9	30.067	85.0	+ 2.8796+	.0036	+ .008	-.0069	0	.11	.63	.19
5732	Pi 36	4.8		9	35.137	71.6	+ 2.5712+	.0113	+ .011	+.0042	0	.07	.36	.16
5733	L 9069	4.9		9	35.584	82.8	+ 3.6311-	.0361	+ .015	+.0043	0	.11	.54	.18
5734	Groomb 3717	5.8		9	42.404	68.4	+ 2.4631+	.0127	+ .012	+.0082+	1	.16	.69	.33
5735	Pi 35	8.1		9	58.695	76.7	+ 3.1393-	.0064	+ .006	+.0012	0	.11	.50	.20
5736	L 9075	5.3	10	25.622	83.1	+ 3.6281-	.0363	+ .015	- .0003	0	.15	.66	.23	
5737	Groomb 3725	5.9	10	32.262	82.8	+ 2.5151+	.0123	+ .011	+.0049	0	.11	.57	.19	
5738	Br 2938	6.4	10	40.815	78.4	+ 1.8812+	.0086	+ .011	-.0041-	1	.11	.48	.19	
5739	L 9071	7.6	10	42.877	88.0	+ 3.9455-	.0628	+ .034	+.0030	0	.18	.94	.28	
5740	Pi 37	6.4	11	0.480	80.6	+ 3.3788-	.0193	+ .008	+.0028	0	.13	.60	.22	
5741	Br 2942	6.3	11	4.201	70.3	+ 1.1006-	.0270	- .039	+.0052+	1	.10	.39	.19	
5742	$\epsilon$ Cephei	4.2	11	21.140	63.3	+ 2.2034+	.0144	+ .014	+.0544+	7	.06	.26	.13	
5743	Br 2928	5.7	11	26.845	71.0	+ 3.2185-	.0104	+ .007	+.0017	0	.09	.36	.17	
5744	$\theta$ Aquarii	4.4	11	33.442	73.1	+ 3.1684-	.0075	+ .007	+.0074	0	.03	.15	.06	
5745	Br 2930	6.3	11	35.845	74.7	+ 3.1711-	.0082	+ .007	-.0035	0	.10	.44	.18	
5746	Br 2933	4.3	11	36.614	63.6	+ 2.6111+	.0109	+ .011	+.0017	0	.11	.48	.25	
5747	$\alpha$ Tucanæ	2.9	11	39.165	67.4	+ 4.1482-	.0845	+ .056	-.0111+	2	.09	.36	.17	
5748	L 9076	5.6	11	42.372	89.0	+ 3.9588-	.0605	+ .032	+.0459+	1	.15	.88	.24	
5749	Br 2931	6.2	11	53.284	75.0	+ 3.1347-	.0063	+ .007	-.0003	0	.10	.45	.19	
5750	$\nu$ Octantis	6.0	22	12	34.98	72.2	+ 12.836-	3.200		-.040+	5	.05	.32	.13

5705  $\Sigma$  2872.  $8^m 22'' 316^\circ$ ; BC:  $9^m 0-9^m 0'' 7 320^\circ$ .5728 W. H.  $7^m 7'' 116^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5701	+32 41 0.98	75.0	+17.495+.179	-.10	-.072 0	.06	.32	.12	27 Pegasi $\pi^1$
5702	- 4 23 3.74	73.6	+17.526+.211	-.16	-.056 0	.10	.50	.21	
5703	+ 5 42 20.73	76.5	+17.616+.206	-.14	+.034+ 1	.04	.20	.08	
5704	-11 18 45.94	73.0	+17.613+.217	-.17	+.029 0	.09	.33	.15	37 Aquarii ( $e^1$ )
5705	+58 47 56.49	58.4	+17.592+.134	-.05	+.006 0	.11	.48	.27	*
5706	-12 3 25.02	75.4	+17.592+.217	-.17	+.005 0	.08	.34	.14	38 Aquarii ( $e$ or $e^2$ )
5707	- 4 45 31.10	73.6	+17.592+.212	-.16	+.002 0	.10	.43	.19	
5708	-21 43 25.06	83.7	+17.571+.226	-.19	-.025 0	.10	.56	.18	119 G Aquarii
5709	+32 41 14.42	77.0	+17.575+.178	-.10	-.023 0	.05	.25	.09	
5710	+20 29 10.86	67.4	+17.595+.190	-.12	-.013 0	.12	.43	.22	28 Pegasi
5711	+15 32 51.51	74.7	+17.643+.192	-.13	-.017 0	.09	.46	.19	
5712	-14 41 11.27	69.2	+17.615+.216	-.18	-.046 0	.10	.37	.18	39 Aquarii
5713	+50 19 44.89	70.5	+17.703+.154	-.07	+.032+ 1	.09	.44	.20	h 1741. 11 <sup>M</sup> 25'' 309°, rel. mot.
5714	+57 42 29.53	70.6	+17.682+.135	-.06	+.007 0	.03	.14	.06	
5715	- 5 12 49.76	75.0	+17.654+.207	-.16	-.027 0	.09	.41	.17	
5716	+71 50 54.61	77.2	+17.700+.072	-.05	+.004 0	.05	.24	.09	24 Cephei
5717	-12 25 13.81	68.4	+17.681+.212	-.17	-.023 0	.13	.44	.22	40 Aquarii
5718	-78 0 33.50	86.4	+17.706+.402	-.99	+.001- 1	.14	.73	.22	
5719	+58 55 16.27	55.7	+17.699+.132	-.05	-.006 0	.12	.36	.23	
5720	-25 40 34.72	83.8	+17.716+.224	-.20	+.011 0	.11	.52	.18	34 G Piscis Aust
5721	+56 20 30.99	69.4	+17.836+.142	-.06	+.127+ 2	.09	.38	.18	
5722	+71 37 7.25	74.9	+17.682+.073	-.05	-.030 0	.08	.34	.14	
5723	+69 38 17.90	63.8	+17.733+.086	-.04	+.018- 1	.09	.36	.19	$\Sigma$ 2883. 8 <sup>M</sup> 2 15'' 254°
5724	+34 6 41.30	60.4	+17.673+.173	-.10	-.043 0	.13	.75	.39	
5725	-41 51 19.40	83.8	+16.940+.247	-.25	-.782+ 3	.10	.50	.16	32 G Gruis
5726	-28 15 45.53	84.4	+17.724+.225	-.21	-.003 0	.10	.50	.16	
5727	+60 15 52.19	83.6	+17.756+.127	-.05	+.026 0	.12	.51	.18	
5728	-21 34 18.43	77.4	+17.798+.218	-.19	+.066 0	.12	.45	.19	41 Aquarii *
5729	-80 56 14.69	85.9	+17.699+.468	-1.44	-.035+ 1	.10	.57	.17	
5730	+28 6 45.98	67.2	+17.742+.178	-.11	-.002 0	.14	.61	.30	
5731	+16 41 44.75	76.1	+17.674+.186	-.13	-.088 0	.09	.37	.15	$\Sigma$ 2877. 10 <sup>M</sup> 12'' 0°, rel. mot.
5732	+39 13 7.21	67.2	+17.770+.166	-.10	+.005 0	.06	.28	.14	h 1746. 11 <sup>M</sup> 28'' 181°
5733	-41 50 39.37	80.1	+17.796+.238	-.25	+.031 0	.10	.45	.17	35 G Gruis $\mu^1$
5734	+44 56 40.07	66.6	+17.763+.159	-.08	-.007+ 1	.14	.52	.27	
5735	- 6 4 54.09	73.4	+17.801+.204	-.16	+.020 0	.10	.39	.17	
5736	-42 7 29.22	82.2	+17.799+.236	-.25	.000 0	.12	.61	.21	36 G Gruis $\mu^2$
5737	+42 27 27.70	80.2	+17.781+.161	-.09	-.022 0	.10	.46	.17	
5738	+62 39 58.10	76.5	+17.811+.118	-.05	+.002 0	.10	.53	.20	
5739	-54 49 9.17	83.5	+17.763+.257	-.32	-.048 0	.15	.69	.24	
5740	-26 23 46.24	78.4	+17.801+.218	-.20	-.021 0	.12	.59	.22	36 G Piscis Aust
5741	+72 48 37.87	74.8	+17.845+.066	-.05	+.020 0	.10	.37	.16	$\Sigma$ 2893. 8 <sup>M</sup> 29'' 348°
5742	+56 32 41.22	64.7	+17.880+.143	-.06	+.044+ 4	.05	.20	.10	
5743	-13 19 48.87	68.8	+17.844+.207	-.18	+.004 0	.08	.31	.15	42 Aquarii
5744	- 8 16 52.77	71.0	+17.825+.203	-.17	-.019 0	.03	.16	.07	
5745	- 9 32 18.43	75.5	+17.837+.203	-.17	-.009 0	.10	.41	.17	
5746	+37 15 1.78	62.0	+17.842+.166	-.10	-.004 0	.10	.42	.22	1 Lacertæ
5747	-60 45 28.68	70.5	+17.817+.267	-.37	-.031- 1	.08	.34	.16	
5748	-54 6 31.63	87.4	+17.169+.258	-.32	-.681+ 3	.12	.75	.21	37 G Gruis
5749	- 5 53 12.08	71.3	+17.878+.200	-.16	+.020 0	.09	.37	.17	44 Aquarii
5750	-86 28 33.98	75.1	+17.952+.835		+.067- 3	.04	.29	.11	



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\epsilon$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
5751	Pi 61	6.1	22 12 49.847	70.8	+2.1600+.0135	+0.015	+0.0055+1	.12	.56	.25
5752	Br 2936	6.4	13 38.775	68.2	+3.2242-.0106	+0.007	+0.0049 0	.09	.33	.16
5753	Groomb 3739	7.3	14 15.763	73.2	+1.7619+.0058	+0.009	+0.0029 0	.10	.58	.24
5754	Pi 65	6.4	14 33.133	66.2	+2.6266+.0113	+0.011	+0.0058 0	.16	.63	.32
5755	$\rho$ Aquarii	5.5	14 56.245	68.4	+3.1595-.0075	+0.007	+0.0006 0	.08	.28	.14
5756	Br 2947	6.2	14 56.919	74.7	+1.9523+.0109	+0.014	+0.0065+1	.09	.38	.16
5757	Br 2941	5.6	15 25.677	75.3	+3.0190-.0009	+0.007	+0.0012 0	.10	.33	.15
5758	$\nu$ Indi	5.6	16 2.021	88.8	+5.2441-.2075	+0.235	+0.2865-52	.13	.81	.22
5759	Br 2940	5.4	16 5.353	77.8	+3.3086-.0159	+0.008	-0.0014 0	.08	.38	.15
5760	Pi 68	7.8	16 9.829	80.8	+3.1441-.0066	+0.007	+0.0026 0	.16	.88	.31
5761	$\gamma$ Aquarii	3.9	16 29.490	74.8	+3.0998-.0041	+0.007	+0.0082 0	.03	.15	.06
5762	Br 2944	5.1	16 35.724	81.5	+2.9519+.0019	+0.008	+0.0003 0	.06	.34	.12
5763	Br 2946	4.9	16 42.214	69.3	+2.7654+.0083	+0.009	+0.0004 0	.11	.52	.24
5764	Br 2948	4.6	16 53.608	69.1	+2.4717+.0140	+0.014	+0.0019 0	.10	.28	.16
5765	L 9108	6.0	16 59.526	91.3	+3.7051-.0433	+0.021	+0.0223-2	.15	.94	.23
5766	L 9099	6.1	17 21.454	83.6	+4.7690-.1676	+0.180	+0.0220-4	.18	.78	.27
5767	Groomb 3751	7.8	17 44.894	66.6	+2.5297+.0134	+0.013	-0.0003 0	.14	.82	.39
5768	Br 2945	5.8	17 56.549	73.6	+3.3508-.0183	+0.009	+0.0067 0	.13	.50	.22
5769	Pi 81	6.3	18 17.477	69.4	+3.1497-.0070	+0.007	-0.0002 0	.12	.54	.25
5770	L 9112	5.1	18 17.919	85.6	+4.0182-.0734	+0.047	+0.0170+1	.14	.75	.23
5771	Groomb 3760	7.3	18 46.627	70.7	+1.7838+.0072	+0.011	+0.0068+1	.10	.48	.21
5772	Br 2951	6.4	18 50.804	71.6	+2.8846+.0057	+0.009	+0.0239+1	.08	.33	.15
5773	Br 2950 <i>m</i>	6.0	18 54.356	70.3	+3.1274-.0058	+0.007	+0.0017 0	.08	.33	.15
5774	Br 2949	6.1	19 5.708	80.4	+3.2179-.0106	+0.008	+0.0032 0	.06	.33	.11
5775	Pi 89	7.0	19 26.314	69.2	+3.0962-.0040	+0.007	+0.0071 0	.15	.63	.30
5776	$\beta$ Lacertæ	4.6	19 37.571	76.3	+2.3523+.0156	+0.015	-0.0016+1	.04	.16	.07
5777	$\pi$ Aquarii	4.6	20 10.211	74.8	+3.0645-.0027	+0.007	+0.0007 0	.05	.26	.10
5778	$\delta$ Tucanæ	4.8	20 13.433	66.1	+4.3183-.1111	+0.094	+0.0106-2	.11	.50	.25
5779	Br 2958	4.6	20 27.638	80.2	+2.4253+.0152	+0.015	-0.0008 0	.08	.33	.12
5780	Pi 91	6.4	20 38.951	81.2	+3.3246-.0174	+0.009	+0.0001 0	.11	.54	.19
5781	Br 2953	6.7	21 8.374	71.2	+3.2638-.0126	+0.008	+0.0180 0	.09	.33	.15
5782	Br 2954	6.4	21 8.807	70.6	+3.2616-.0126	+0.008	+0.0157 0	.09	.32	.15
5783	L 9117	5.8	21 16.026	84.1	+4.4802-.1320	+0.125	+0.0267-4	.15	.80	.26
5784	Br 2993	5.4	21 18.14	79.0	-4.136-.1308		+0.051+36	.05	.27	.10
5785	Br 2955	7.3	21 23.040	63.3	+3.1913-.0092	+0.007	+0.0031 0	.12	.45	.24
5786	Br 2957	6.1	21 31.986	66.1	+3.0541-.0012	+0.007	+0.0195 0	.08	.33	.17
5787	Br 2997	7.0	21 41.24	74.0	-4.316-.1383		+0.038+37	.07	.38	.15
5788	Groomb 3771	7.6	21 52.800	69.1	+2.3290+.0161	+0.016	+0.0013 0	.16	.58	.29
5789	$\nu$ Gruis	5.7	22 47.645	83.4	+3.5320-.0324	+0.015	+0.0040 0	.10	.50	.16
5790	Br 2959	5.0	22 47.797	70.8	+3.0371-.0009	+0.007	+0.0051+1	.09	.36	.16
5791	$\delta^1$ Gruis	4.1	23 17.675	79.2	+3.6034-.0386	+0.019	+0.0024 0	.11	.51	.19
5792	Pulk <sub>ss</sub> 3296	5.8	23 25.697	83.2	+1.5549-.0015	-0.001	+0.0060+1	.11	.69	.22
5793	$\zeta^1$ Aquarii	4.5	23 40.876	72.2	+3.0889-.0032	+0.007	+0.0115 0	.07	.40	.17
5794	$\zeta^2$ Aquarii	4.3	23 41.045	68.2	+3.0912-.0033	+0.007	+0.0138 0	.05	.24	.11
5795	$\delta^2$ Gruis	4.3	23 47.098	78.4	+3.6015-.0389	+0.019	-0.0017 0	.12	.66	.24
5796	Br 2969	5.8	23 52.242	61.3	+1.9258+.0121	+0.015	+0.0009 0	.11	.48	.26
5797	Br 2962	5.9	24 8.525	64.3	+2.9938+.0010	+0.008	+0.0037 0	.15	.60	.31
5798	Pi 120	6.0	24 29.043	74.3	+2.8073+.0083	+0.009	+0.0018 0	.14	.80	.32
5799	Br 2961	6.6	24 40.742	66.9	+3.2136-.0101	+0.008	+0.0124 0	.12	.58	.28
5800	Br 2965 <i>m</i>	5.8	22 24 54.623	77.4	+3.0333-.0010	+0.007	-0.0021 0	.09	.32	.14

5757 h 962.  $12^M 6'' 20^\circ$ ;  $12^M 11'' 22^\circ$ .  
 5773  $\beta$  172.  $6^M 7-6^M 9 0'' 7 4^\circ$ , slow binary.

5772  $\Sigma$  2900.  $9^M 2 1'' 5 179^\circ$ , slow.  
 5781-2 W. H.  $7'' 309^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta \mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5751	+56 43 15.54	64.8	+17.892+.135	-.06	-.003 0	.13	.47	.25	45 Aquarii
5752	-13 48 20.79	69.0	+17.908+.203	-.18	-.019 0	.08	.32	.15	
5753	+65 37 42.59	72.7	+17.974+.107	-.04	+.023 0	.09	.44	.19	
5754	+37 16 1.23	56.5	+18.023+.163	-.10	+.061 0	.12	.46	.27	
5755	- 8 19 24.37	62.3	+17.972+.196	-.17	-.005 0	.07	.24	.13	
5756	+62 18 11.00	63.4	+18.001+.119	-.05	+.023 0	.08	.29	.16	25 Cephei
5757	+ 5 17 12.83	70.0	+18.001+.186	-.15	+.005 0	.08	.28	.14	30 Pegasi *
5758	-72 44 29.22	86.3	+17.325+.348	-.61	-.694+.21	.11	.65	.19	47 Aquarii
5759	-22 5 58.02	81.4	+17.934+.204	-.19	-.087 0	.07	.33	.12	
5760	- 6 44 46.72	77.0	+18.028+.193	-.16	+.004 0	.13	.58	.23	
5761	- 1 53 28.90	73.3	+18.046+.190	-.16	+.009 0	.03	.16	.07	31 Pegasi
5762	+11 42 4.30	77.6	+18.046+.180	-.14	+.005 0	.06	.29	.11	
5763	+27 49 35.85	69.0	+18.043+.168	-.11	-.002 0	.07	.37	.17	32 Pegasi
5764	+46 1 58.48	59.2	+18.052+.149	-.08	.000 0	.08	.26	.16	2 Lacertæ
5765	-46 25 54.45	87.6	+17.995+.228	-.27	-.061+ 1	.12	.65	.19	39 G Gruis $\pi^2$ ( $\pi$ )
5766	-70 56 9.06	86.0	+18.016+.295	-.54	-.054+ 1	.16	.75	.24	71 G Indi
5767	+43 14 27.65	63.8	+18.050+.152	-.09	-.034 0	.14	.65	.33	49 Aquarii
5768	-25 16 5.07	73.4	+18.091+.203	-.20	-.001 0	.12	.46	.21	
5769	- 7 42 1.43	73.2	+18.110+.189	-.17	+.005 0	.11	.46	.20	5 G Tucanæ
5770	-58 17 39.41	84.6	+17.763+.245	-.33	-.342+ 1	.11	.64	.20	
5771	+66 12 3.97	65.4	+18.133+.104	-.04	+.010 0	.08	.34	.17	$\Sigma$ 2903. $8^m 2 4'' 95^\circ$
5772	+20 20 33.94	64.6	+18.107+.173	-.13	-.019+ 1	.07	.26	.14	33 Pegasi *
5773	- 5 20 34.94	67.8	+18.128+.187	-.16	.000 0	.07	.31	.15	51 Aquarii *
5774	-14 2 10.81	75.9	+18.151+.192	-.18	+.016 0	.06	.31	.12	50 Aquarii
5775	- 1 41 40.43	71.2	+18.183+.184	-.16	+.035 0	.14	.52	.25	h 5334. $9^m 2 4'' 283^\circ$
5776	+51 43 40.47	73.0	+17.965+.138	-.08	-.190 0	.04	.17	.08	
5777	+ 0 52 11.43	70.2	+18.178+.181	-.16	+.003 0	.05	.23	.11	
5778	-65 28 30.36	69.0	+18.188+.258	-.41	+.011+ 1	.10	.45	.21	
5779	+48 58 9.20	77.0	+18.175+.141	-.08	-.011 0	.07	.26	.11	
5780	-24 11 26.25	82.7	+18.197+.196	-.20	+.004 0	.10	.47	.16	144 G Aquarii
5781	-17 14 58.58	73.4	+18.204+.192	-.18	-.006+ 1	.09	.40	.17	} 53 <sup>1</sup> Aquarii f *
5782	-17 15 3.05	70.6	+18.215+.192	-.18	+.004+ 1	.09	.35	.16	
5783	-67 59 48.38	85.4	+18.137+.267	-.46	+.078+ 2	.13	.84	.24	72 G Indi
5784	+85 36 17.27	81.3	+18.265-.256		+.049+ 3	.05	.25	.09	32 H Cephei
5785	-11 44 11.83	66.6	+18.218+.186	-.17	-.002 0	.11	.41	.21	54 Aquarii
5786	+ 3 53 0.28	63.0	+18.268+.179	-.15	+.043+ 1	.08	.30	.16	34 Pegasi *
5787	+85 43 8.40	77.1	+18.246-.267		+.015+ 2	.09	.37	.15	
5788	+53 18 27.60	63.2	+18.243+.133	-.07	+.005 0	.16	.64	.34	35 Pegasi
5789	-39 38 16.37	84.6	+18.101+.204	-.24	-.170 0	.10	.54	.17	
5790	+ 4 11 38.47	67.1	+17.955+.175	-.15	-.316 0	.08	.34	.17	
5791	-44 0 23.24	77.4	+18.289+.207	-.26	+.001 0	.09	.41	.16	L 9138
5792	+70 15 41.15	87.5	+18.311+.085	-.04	+.018 0	.11	.64	.18	} $\Sigma$ 2909. $3'' 319^\circ$ , slow
5793	- 0 31 53.33	76.8	+18.318+.176	-.16	+.016+ 1	.07	.36	.14	
5794	- 0 31 55.99	71.8	+18.347+.177	-.16	+.045+ 1	.05	.25	.11	
5795	-44 15 39.00	77.7	+18.309+.206	-.26	+.003 0	.10	.55	.20	L 9140 *
5796	+64 37 20.50	55.4	+18.318+.107	-.05	+.009 0	.10	.40	.24	36 Pegasi
5797	+ 8 37 5.31	57.4	+18.291+.170	-.14	-.028 0	.13	.55	.32	
5798	+26 15 6.26	68.9	+18.314+.158	-.12	-.018 0	.13	.67	.30	
5799	-13 25 38.10	68.0	+18.331+.182	-.18	-.007+ 1	.11	.64	.29	37 Pegasi *
5800	+ 3 55 25.09	70.1	+18.208+.170	-.15	-.138 0	.08	.28	.14	

5786  $\beta$  290.  $12^m 3'' 218^\circ$ , very slow.5795  $9^m$  prec.  $3.2$ , S  $51''$ .5800  $\Sigma$  2912.  $6^m 1-7^m 4 1'' \pm$ , binary.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup>	$\mu$ and 100 $\Delta \mu$	Prob. Errors. a Ep. 100 $\mu$ a 10		
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
5801	Br 2963	6.5	22 24 55.849	71.8	+3.2201-.0111	+ .008	+ .0025 0	.11	.39	.18
5802	Pi 118	6.8	25 20.282	84.4	+3.3430-.0191	+ .010	+ .0022 0	.12	.69	.21
5803	$\sigma$ Aquarii	4.9	25 21.352	70.4	+3.1784-.0087	+ .007	.0000 0	.04	.21	.09
5804	Br 2970	4.6	25 21.609	66.6	+2.4915+.0157	+ .015	-.0018 0	.09	.44	.21
5805	Br 2972	7.5	25 26.388	79.3	+2.2216+.0169	+ .019	+ .0033 0	.11	.45	.18
5806	Br 2968	5.6	25 27.317	77.9	+2.7392+.0107	+ .011	+ .0025 0	.09	.45	.17
5807	$\delta$ Cephei	Var.	25 27.389	66.5	+2.2196+.0169	+ .019	+ .0015 0	.04	.16	.08
5808	$\beta$ Piscis Aust	4.4	25 49.301	80.1	+3.4218-.0247	+ .012	+ .0046 0	.09	.42	.15
5809	Br 2980	6.0	25 57.563	65.3	+0.5006-.0903	-.197	-.0028+ 1	.07	.30	.15
5810	Br 2971	4.5	26 10.198	58.6	+2.5818+.0145	+ .014	-.0012 0	.14	.42	.26
5811	$\nu$ Tucanæ	5.2	26 14.496	83.3	+4.0961-.0909	+ .071	+ .0027 0	.11	.69	.22
5812	Br 2967	6.7	26 23.228	71.0	+3.1837-.0088	+ .007	+ .0041 0	.09	.36	.17
5813	$\alpha$ Lacertæ	3.8	27 10.218	73.0	+2.4643+.0170	+ .016	+ .0145+ 1	.04	.24	.10
5814	Br 2974	6.5	27 45.472	64.1	+2.8954+.0059	+ .009	+ .0106 0	.11	.44	.23
5815	Groomb 3804	6.0	28 1.108	70.0	+2.6470+.0136	+ .013	+ .0015 0	.10	.63	.27
5816	Pi 142	7.1	28 50.579	64.2	+3.1639-.0080	+ .007	-.0009 0	.14	.57	.30
5817	Br 2977	6.2	28 53.653	63.0	+3.0930-.0038	+ .007	+ .0018 0	.13	.48	.26
5818	$\rho$ Cephei	5.6	28 59.917	70.5	+0.5757-.0848	-.188	+ .0015+ 1	.08	.30	.14
5819	$\nu$ Aquarii	5.5	29 13.483	73.2	+3.2880-.0150	+ .009	+ .0155 0	.07	.26	.12
5820	Pi 145	7.4	29 28.965	73.4	+3.0689-.0027	+ .007	-.0027 0	.14	.57	.25
5821	Pi 156	5.9	29 47.827	82.8	+2.3183+.0184	+ .019	+ .0089+ 1	.11	.46	.17
5822	Pi 146	6.3	30 6.427	82.1	+3.3063-.0173	+ .010	+ .0011 0	.12	.68	.22
5823	Groomb 3826 m	6.2	30 8.950	73.6	+1.7373+.0072	+ .011	+ .0232+ 4	.09	.40	.17
5824	$\eta$ Aquarii	4.1	30 13.090	73.2	+3.0840-.0030	+ .008	+ .0060 0	.03	.16	.07
5825	Br 2978	7.0	30 25.810	66.2	+3.2349-.0127	+ .009	-.0027 0	.15	.48	.26
5826	Groomb 3827	6.5	30 27.312	80.6	+1.6960+.0056	+ .009	+ .0113+ 2	.10	.44	.16
5827	Groomb 3834	5.9	30 31.057	71.8	+1.0709-.0347	-.062	-.0043- 2	.04	.27	.11
5828	L 9181	6.5	30 38.965	91.6	+3.5182-.0339	+ .018	+ .0028 0	.12	.72	.18
5829	L 9184	6.1	30 57.802	81.5	+3.3876-.0238	+ .012	-.0033 0	.12	.70	.23
5830	Pi 158	6.9	31 0.202	84.0	+2.8906+.0062	+ .010	.0000 0	.12	.60	.20
5831	L 9183	6.0	31 8.795	89.0	+3.5173-.0339	+ .019	+ .0041 0	.16	.84	.24
5832	Br 2981	6.7	31 25.124	80.1	+2.6622+.0140	+ .013	-.0006 0	.14	.86	.29
5833	Br 2982	5.9	31 25.239	64.8	+2.6618+.0140	+ .013	-.0009 0	.11	.36	.20
5834	Groomb 3829	6.5	31 44.066	85.0	+2.4847+.0176	+ .017	+ .0013 0	.12	.56	.18
5835	$\kappa$ Aquarii	5.4	32 34.658	76.7	+3.1084-.0050	+ .008	-.0052 0	.06	.27	.11
5836	L 9197	5.8	33 12.549	89.2	+3.4014-.0251	+ .013	+ .0008 0	.12	1.10	.26
5837	Br 2987	4.8	33 15.831	75.2	+2.4559+.0183	+ .018	-.0060 0	.09	.39	.16
5838	Br 2994	5.3	33 17.901	78.5	+1.4843-.0051	-.010	+ .0391+ 11	.04	.28	.10
5839	Br 2984	7.5	34 0.361	71.4	+3.1606-.0081	+ .008	-.0029 0	.08	.36	.16
5840	Br 2985	6.1	34 2.203	66.3	+2.9003+.0060	+ .010	-.0034 0	.11	.44	.22
5841	Pulk <sub>ss</sub> 1303 m	8.1	34 14.848	73.8	+3.2037-.0096	+ .008	+ .0174 0	.11	.50	.21
5842	L 9198	6.1	34 26.489	90.7	+3.8579-.0700	+ .050	+ .0072- 1	.15	1.05	.25
5843	Groomb 3847	5.4	34 41.836	77.9	+2.3503+.0199	+ .020	+ .0061+ 1	.15	.66	.26
5844	Br 2990	5.0	34 46.369	85.8	+2.6856+.0142	+ .013	.0000 0	.05	.32	.09
5845	L 9205	6.2	34 47.624	82.8	+3.3587-.0225	+ .012	-.0074+ 1	.13	.81	.26
5846	Pi 176	7.1	34 51.471	71.0	+3.1680-.0077	+ .008	+ .0111 0	.11	.46	.21
5847	Br 2989	6.5	34 56.349	54.2	+2.9042+.0062	+ .010	+ .0003 0	.16	.56	.35
5848	Br 2996	5.3	35 6.142	81.0	+2.1199+.0187	+ .023	-.0002 0	.06	.34	.12
5849	$\epsilon$ Piscis Aust	4.2	35 7.562	75.1	+3.3266-.0196	+ .011	+ .0018 0	.07	.32	.13
5850	$\beta$ Octantis	4.3	22 35 50.926	70.4	+6.4158-.6245	+ 1.848	-.0300+ 19	.06	.39	.16

5805-7  $\Sigma$  App. 41" 192°. Princ. star is var., 3<sup>M</sup>7 to 4<sup>M</sup>95831  $\beta$  771. 10<sup>M</sup> 2" 265°.



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. $\delta$ Ep. $100\mu'$ $\delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
5801	-15 5 49.40	70.7	+18.306+.181	-.18	-.041 0	.09	.37	.17	56 Aquarii
5802	-26 35 4.00	84.0	+18.301+.188	-.20	-.060 0	.11	.55	.18	41 G Piscis Aust $\zeta$
5803	-11 11 23.35	70.1	+18.332+.178	-.17	-.030 0	.04	.18	.08	
5804	+47 11 41.48	63.1	+18.351+.138	-.09	-.011 0	.09	.35	.18	5 Lacertæ
5805	+57 53 31.88	75.8	+18.374+.122	-.07	+0.010 0	.10	.34	.15	See $\delta$ Cephei *
5806	+32 3 38.36	73.6	+18.349+.152	-.11	-.016 0	.08	.37	.16	38 Pegasi
5807	+57 54 11.67	59.7	+18.368+.122	-.07	+0.003 0	.04	.17	.10	See Br 2972 *
5808	-32 51 32.23	76.2	+18.360+.192	-.22	-.018 0	.09	.39	.16	Dunlop. $7^m 53^s 172^\circ$
5809	+78 16 33.79	66.6	+18.346+.021	-.09	-.037 0	.07	.28	.14	28 Cephei $\rho^1$
5810	+42 36 38.36	49.0	+18.388+.142	-.10	-.002 0	.10	.41	.27	6 Lacertæ
5811	-62 29 44.85	83.6	+18.359+.230	-.36	-.034 0	.10	.64	.20	
5812	-11 25 5.03	72.3	+18.357+.176	-.17	-.041 0	.08	.35	.15	58 Aquarii
5813	+49 46 5.67	71.7	+18.438+.134	-.08	+0.013+1	.04	.17	.07	Br 2975. 7 Lacertæ
5814	+19 42 51.95	62.2	+18.467+.158	-.13	+0.022+1	.10	.39	.21	39 Pegasi
5815	+39 15 54.96	67.6	+18.445+.143	-.10	-.009 0	.09	.51	.24	
5816	-10 7 27.23	68.8	+18.483+.171	-.17	+0.001 0	.13	.51	.25	
5817	-2 5 20.57	62.6	+18.451+.167	-.16	-.033 0	.11	.36	.20	60 Aquarii
5818	+78 18 39.81	70.7	+18.474+.025	-.09	-.013 0	.08	.30	.14	29 Cephei ( $\rho^2$ )
5819	-21 13 13.96	73.3	+18.347+.178	-.19	-.148+1	.08	.28	.13	
5820	+0 4 50.73	74.6	+18.425+.164	-.16	-.079 0	.12	.51	.22	
5821	+56 6 27.12	76.4	+18.559+.122	-.07	+0.045 0	.10	.36	.16	
5822	-24 30 29.28	80.2	+18.518+.176	-.20	-.006 0	.11	.59	.21	162 G Aquarii
5823	+69 23 44.73	69.5	+18.596+.090	-.04	+0.070+1	.08	.33	.16	$\Sigma$ 2924. $6^m 7^s 271^\circ$ , slow
5824	-0 37 58.99	73.0	+18.474+.164	-.16	-.054 0	.03	.16	.06	
5825	-17 58 35.68	65.6	+18.494+.172	-.19	-.041 0	.12	.40	.22	61 Aquarii
5826	+69 51 25.99	73.8	+18.559+.087	-.04	+0.023+1	.08	.30	.14	$\Sigma$ 2923. $9^m 29^s 47^\circ$
5827	+75 42 39.80	72.3	+18.537+.051	-.05	-.001 0	.05	.28	.12	
5828	-41 5 55.25	89.1	+18.458+.187	-.24	-.085 0	.11	.58	.16	50 G Gruis
5829	-32 10 50.88	77.0	+18.501+.179	-.21	-.052 0	.12	.64	.24	47 G Piscis Aust
5830	+19 45 34.44	81.5	+18.436+.152	-.14	-.118 0	.10	.51	.18	
5831	-41 6 26.49	84.1	+18.482+.186	-.23	-.077 0	.14	.63	.22	51 G Gruis ( $\sigma^2$ ) *
5832	+39 6 37.24	71.5	+18.557+.138	-.11	-.011 0	.12	.63	.27	{ See Appendix 8 Lacertæ
5833	+39 6 59.53	56.7	+18.553+.138	-.11	-.015 0	.10	.37	.22	
5834	+49 33 10.33	81.9	+18.587+.128	-.09	+0.009 0	.11	.45	.17	
5835	-4 44 38.12	63.4	+18.491+.160	-.17	-.115 0	.06	.26	.14	
5836	-33 36 6.19	87.4	+18.664+.175	-.22	+0.038 0	.13	1.35	.33	49 G Piscis Aust
5837	+51 1 43.38	66.0	+18.527+.124	-.09	-.101 0	.09	.26	.14	9 Lacertæ
5838	+73 7 26.35	75.7	+18.650+.074	-.04	+0.021+2	.05	.25	.10	31 Cephei
5839	-10 32 53.47	72.9	+18.648+.161	-.17	-.004 0	.07	.33	.14	64 Aquarii
5840	+19 0 16.31	66.4	+18.549+.147	-.14	-.104 0	.10	.39	.20	40 Pegasi
5841	-13 7 53.88	67.6	+18.494+.164	-.18	-.166+1	.09	.38	.19	$\Sigma$ 2928. $8^m 8^s 4'' 313^\circ$
5842	-57 56 36.74	86.5	+18.664+.198	-.31	-.002 0	.12	.69	.20	10 G Tucanæ
5843	+56 16 34.20	73.1	+18.652+.117	-.07	-.022 0	.14	.51	.23	h 1796. $11^m 29'' 15^\circ$
5844	+38 31 46.72	75.3	+18.668+.134	-.11	-.009 0	.05	.24	.10	10 Lacertæ
5845	-31 10 27.86	78.1	+18.468+.170	-.21	-.209 0	.13	.69	.26	51 G Piscis Aust
5846	-9 52 54.27	71.1	+18.721+.160	-.17	+0.042+1	.10	.43	.19	
5847	+19 9 36.64	55.8	+18.663+.146	-.14	-.019 0	.13	.55	.32	41 Pegasi
5848	+63 3 52.45	72.6	+18.668+.104	-.06	-.019 0	.06	.25	.11	30 Cephei
5849	-27 33 54.82	76.3	+18.686+.168	-.21	-.002 0	.08	.34	.14	
5850	-81 54 20.82	71.4	+18.716+.326	-1.24	+0.005-2	.05	.35	.14	

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup>	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
			M	h	m	s	s	s			a Ep.	100 $\mu$	a 10
5851	Pi 186 <i>m</i>	6.0	22	35	55.313	82.5	+2.9711+.0040	+ .009	+ .0185	0	.09	.58	.18
5852	Br 2995	4.6		36	7.688	71.0	+2.6234+.0166	+ .015	+ .0090+	1	.08	.34	.15
5853	$\xi$ Pegasi	3.5		36	28.465	71.8	+2.9909+.0024	+ .009	+ .0052	0	.03	.15	.06
5854	$\beta$ Gruis	2.1		36	41.876	77.3	+3.6017-.0435	+ .026	+ .0125-	1	.09	.38	.15
5855	Br 2991	6.8		36	48.446	79.6	+3.3470-.0215	+ .012	+ .0020	0	.10	.57	.20
5856	Br 3002	5.4		36	59.897	68.0	+2.6775+.0150	+ .014	- .0017	0	.13	.58	.28
5857	Pi 195	6.3		37	1.131	78.8	+2.6608+.0041	+ .009	+ .0064	0	.12	.63	.23
5858	$\alpha$ Pegasi	4.9		37	3.645	63.7	+2.8119+.0104	+ .011	- .0005	0	.12	.48	.25
5859	Paris 32559	7.4		37	35.891	86.4	+3.2672-.0153	+ .010	+ .0031	0	.13	.90	.25
5860	$\rho$ Gruis	5.0		37	42.063	86.8	+3.4939-.0346	+ .019	- .0004	0	.13	.86	.24
5861	Br 2998	7.5		37	45.585	64.2	+3.1600-.0080	+ .008	- .0004	0	.14	.48	.26
5862	Pi 200	6.9		37	49.088	68.4	+3.1469-.0070	+ .008	+ .0017	0	.15	.52	.27
5863	Br 3001	6.8		38	0.955	77.9	+3.1349-.0062	+ .008	+ .0011	0	.08	.40	.15
5864	Br 3000	4.8		38	12.434	76.6	+3.2348-.0133	+ .010	- .0015	0	.11	.54	.21
5865	$\eta$ Pegasi	3.0		38	18.808	77.5	+2.8072+.0110	+ .011	+ .0008	0	.03	.20	.07
5866	Groomb 3887	7.2		39	12.043	79.6	+0.2111-.1516	- .438	+ .0099+	5	.08	.46	.16
5867	$\eta$ Gruis	4.9		39	29.643	72.0	+3.7080-.0572	+ .039	+ .0021	0	.14	.54	.25
5868	Groomb 3869	6.5		39	34.229	81.0	+2.7005+.0150	+ .014	- .0006	0	.10	.54	.19
5869	Br 3005	5.3		39	37.804	81.6	+2.6683+.0160	+ .015	- .0008	0	.06	.33	.11
5870	L 9229	5.7		39	46.525	81.8	+3.5600-.0422	+ .025	- .0051+	1	.18	.92	.32
5871	Br 3004	6.1		40	3.317	78.9	+3.2984-.0179	+ .011	+ .0056	0	.09	.48	.18
5872	Br 3006	6.5		40	36.250	64.6	+2.9151+.0064	+ .010	- .0024	0	.09	.33	.17
5873	$\xi$ Octantis	5.6		41	2.997	90.2	+5.8168-.4790	+1.236	+ .0029-	1	.16	1.14	.28
5874	$\xi$ Pegasi	4.3		41	41.788	67.6	+2.9953+.0035	+ .009	+ .0154+	1	.07	.32	.15
5875	$\lambda$ Pegasi	4.0		41	42.815	77.9	+2.8861+.0084	+ .010	+ .0042	0	.03	.20	.07
5876	Groomb 3882	6.0		41	43.985	79.0	+2.6529+.0177	+ .016	+ .0131+	1	.11	.52	.19
5877	L 9251	7.0		42	6.108	84.6	+3.4235-.0301	+ .017	- .0064+	1	.11	.60	.19
5878	Br 3007	5.5		42	10.898	62.7	+3.2275-.0136	+ .010	- .0080+	1	.12	.45	.24
5879	Br 3009	5.7		42	24.236	68.2	+3.1902-.0102	+ .009	+ .0024	0	.09	.33	.16
5880	$\epsilon$ Gruis	3.6		42	30.981	77.9	+3.6476-.0517	+ .034	+ .0111-	1	.10	.42	.16
5881	Br 3011 <i>n.f.</i>	7.6		42	40.882	66.5	+3.0959-.0045	+ .008	- .0132+	1	.09	.33	.17
5882	Br 3012	6.4		43	14.531	72.7	+3.1614-.0081	+ .008	+ .0030	0	.07	.33	.14
5883	Br 3014	6.5		43	24.828	74.1	+2.3736+.0227	+ .024	+ .0015	0	.10	.44	.19
5884	$\tau$ Aquarii	4.2		44	17.888	71.5	+3.1803-.0098	+ .009	- .0011	0	.04	.24	.10
5885	$\mu$ Pegasi	3.7		45	10.553	73.3	+2.8915+.0092	+ .010	+ .0107	0	.04	.20	.08
5886	L 9275	5.6		45	20.763	88.3	+3.4299-.0312	+ .018	+ .0027	0	.13	.82	.22
5887	Groomb 3900	5.6		45	38.613	59.4	+2.4653+.0229	+ .023	+ .0099+	1	.14	.66	.36
5888	L 9268	6.4		45	40.502	91.6	+3.9334-.0918	+ .084	- .0013+	1	.15	1.02	.24
5889	Br 3015	6.3		45	50.169	80.6	+3.3185-.0212	+ .012	+ .0001	0	.14	.68	.24
5890	Br 3018	6.1		45	51.079	78.7	+2.6983+.0170	+ .015	+ .0009	0	.09	.28	.13
5891	$\iota$ Cephei	3.6		46	7.137	72.1	+2.1247+.0227	+ .029	- .0110-	1	.03	.15	.06
5892	Abo 528	8.2		46	26.182	72.2	+3.0006+.0044	+ .009	+ .0290	0	.14	.58	.26
5893	$\gamma$ Piscis Aust	4.6		46	58.116	80.9	+3.3461-.0242	+ .014	- .0024	0	.09	.44	.16
5894	$\sigma$ Pegasi	5.3		47	19.961	67.4	+3.0388+.0026	+ .009	+ .0347	0	.08	.28	.14
5895	$\lambda$ Aquarii	3.8		47	23.880	74.3	+3.1320-.0062	+ .008	+ .0003	0	.03	.18	.07
5896	Br 3028 <i>m</i>	5.9		47	28.318	67.1	+2.3323+.0250	+ .028	+ .0154+	2	.09	.39	.19
5897	Br 3023	5.1		47	31.318	66.0	+2.6972+.0180	+ .016	+ .0095+	1	.10	.44	.22
5898	$\rho$ Indi	6.3		47	42.250	82.4	+4.2404-.1447	+ .182	- .0099+	1	.13	.68	.22
5899	Br 3038	5.1		47	52.955	75.0	-0.1051-.2362	- .852	+ .0176+	6	.07	.39	.15
5900	Pi 241	5.9	22	48	6.900	72.6	+2.9500+.0058	+ .010	- .0017	0	.14	.62	.27

5869 OZ 479. 11<sup>m</sup> 15" 129°.5879 Z 2943. 9<sup>m</sup> 26" 117°, relative motion.5881 Z 2944. 7<sup>m</sup> 9 3" 258°, very slow; 8<sup>m</sup> 47" 130°, relative motion.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta\mu'$	Prob. Errors. $\delta$ Ep. 100 $\mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5851	+14 1 24.00	81.6	+18.847+.148	-.14	+1.134+ 1	.08	.49	.16	Hough 296. 6 <sup>m</sup> 8-6 <sup>m</sup> 8 0'' 3 72°
5852	+43 45 14.82	65.5	+18.728+.129	-.10	+1.009 0	.07	.27	.14	11 Lacertæ
5853	+10 18 33.15	68.4	+18.718+.148	-.15	-.012 0	.03	.14	.06	
5854	-47 24 27.40	77.8	+18.716+.179	-.25	-.021+ 1	.08	.35	.14	
5855	-29 53 0.75	78.6	+18.727+.165	-.21	-.014 0	.10	.51	.19	19 Piscis Aust
5856	+39 42 10.26	59.9	+18.739+.130	-.11	-.007 0	.11	.41	.23	12 Lacertæ
5857	+13 59 38.36	72.2	+18.722+.145	-.14	-.025 0	.11	.49	.22	
5858	+28 47 7.55	57.8	+18.713+.137	-.12	-.035 0	.10	.42	.24	
5859	-22 10 52.91	88.4	+18.781+.160	-.19	+1.016 0	.12	1.03	.25	L 9221
5860	-41 56 8.00	82.1	+18.685+.171	-.23	-.084 0	.12	.77	.25	
5861	-10 37 35.83	69.2	+18.783+.154	-.17	+1.013 0	.12	.45	.22	65 Aquarii
5862	- 8 50 6.34	66.1	+18.767+.153	-.17	-.005 0	.11	.40	.21	Σ 2935. 8 <sup>m</sup> 2'' 6 312°
5863	- 7 29 11.71	76.4	+18.757+.152	-.17	-.021 0	.07	.33	.13	67 Aquarii
5864	-19 21 13.35	77.3	+18.756+.157	-.19	-.028 0	.10	.39	.16	66 Aquarii (g <sup>1</sup> ) g
5865	+29 41 52.99	75.2	+18.752+.135	-.12	-.035 0	.04	.23	.09	
5866	+80 52 9.04	74.4	+18.819+.003	-.13	+1.005 0	.08	.39	.16	
5867	-54 1 33.90	69.5	+18.840+.178	-.28	+1.017 0	.11	.44	.21	12 <sup>m</sup> 24'' 185°
5868	+38 56 29.08	77.7	+18.811+.127	-.11	-.014 0	.09	.43	.16	Σ 2942. 8 <sup>m</sup> 8 3'' 280°
5869	+41 17 39.64	74.6	+18.833+.126	-.11	+1.006 0	.07	.31	.13	13 Lacertæ *
5870	-47 4 21.10	81.0	+18.814+.170	-.25	-.017 0	.14	.82	.28	62 G Gruis
5871	-25 45 46.26	82.9	+18.850+.157	-.20	+1.010 0	.09	.48	.16	20 Piscis Aust
5872	+18 50 20.86	63.0	+18.905+.136	-.14	+1.049 0	.08	.32	.17	45 Pegasi
5873	-80 39 4.80	86.7	+18.861+.278	-.96	-.008 0	.13	.80	.23	
5874	+11 39 35.51	67.5	+18.392+.139	-.15	-.496+ 1	.06	.25	.12	h 301. 12 <sup>m</sup> 12'' 110°
5875	+23 2 21.34	75.1	+18.875+.133	-.13	-.014 0	.04	.19	.08	
5876	+44 1 7.14	73.5	+18.914+.122	-.10	+1.025+ 1	.10	.40	.18	
5877	-38 44 50.34	84.5	+18.826+.158	-.23	-.074 0	.12	.67	.21	67 G Gruis
5878	-20 8 6.38	66.4	+18.694+.148	-.19	-.208 0	.12	.40	.21	68 Aquarii (g <sup>2</sup> )
5879	-14 35 1.37	61.1	+18.896+.146	-.18	-.013 0	.08	.26	.15	69 Aquarii τ <sup>1</sup> *
5880	-51 50 33.98	78.6	+18.850+.169	-.27	-.062+ 1	.08	.37	.14	
5881	- 4 44 52.28	63.6	+18.623+.140	-.17	-.294- 1	.08	.29	.16	*
5882	-11 5 1.47	74.9	+18.941+.144	-.17	+1.008 0	.07	.33	.13	70 Aquarii
5883	+57 57 18.81	73.9	+18.943+.106	-.07	+1.005 0	.10	.34	.16	
5884	-14 7 13.83	70.7	+18.927+.142	-.18	-.036 0	.05	.22	.10	71 Aquarii τ <sup>2</sup>
5885	+24 4 24.26	72.8	+18.943+.127	-.13	-.045 0	.04	.21	.09	
5886	-39 41 11.41	86.4	+18.978+.152	-.23	-.015 0	.11	.63	.19	69 G Gruis
5887	+55 22 20.19	54.5	+19.039+.107	-.09	+1.038 0	.14	.63	.38	
5888	-63 43 4.39	88.1	+18.959+.174	-.34	-.043 0	.12	.71	.20	18 G Tucanæ
5889	-30 3 57.55	78.6	+19.005+.146	-.21	-.001 0	.14	.67	.25	60 G Piscis Aust
5890	+41 25 25.74	72.3	+19.006+.117	-.11	-.001 0	.08	.27	.13	14 Lacertæ
5891	+65 40 27.88	68.8	+18.893+.090	-.06	-.121 0	.03	.14	.06	
5892	+13 26 2.73	68.0	+19.237+.131	-.14	+1.214+ 1	.10	.46	.22	
5893	-33 24 21.23	76.9	+19.006+.145	-.21	-.032 0	.10	.47	.19	h 5367. 9 <sup>m</sup> 4'' 268°
5894	+ 9 18 12.29	64.8	+19.091+.132	-.15	+1.043+ 2	.08	.27	.14	
5895	- 8 6 42.53	72.5	+19.085+.134	-.17	+1.036 0	.03	.16	.07	
5896	+61 9 53.79	61.5	+19.093+.098	-.08	+1.042+ 1	.08	.32	.17	Σ 2950. 6 <sup>m</sup> 2-7 <sup>m</sup> 3 2'' 308°
5897	+42 46 50.52	58.4	+19.069+.115	-.11	+1.016 0	.10	.39	.22	15 Lacertæ *
5898	-70 36 27.73	83.7	+19.131+.183	-.42	+1.073 0	.11	.63	.20	
5899	+82 37 23.67	80.0	+19.117-.012	-.18	+1.054+ 1	.06	.31	.11	34 H Cephei *
5900	+16 18 37.66	70.4	+19.047+.124	-.14	-.022 0	.12	.53	.24	

5897 β 451. 11<sup>m</sup> 29'' 131°.5899 OΣ 482. 10<sup>m</sup> 3'' 5 34°.



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.		3 <sup>d</sup> t	$\mu$ and $100 \Delta \mu$		Prob. Errors. $\alpha$ Ep. $100 \mu$ $\alpha 10$		
			<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>			<sup>s</sup> <sup>s</sup>	<sup>s</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	"	"	"	
5901	Br 3021	6.1	22	48	12.818	75.7	+3.1621-.0085	+0.009	+0.0011	0	.07	.36	.14	
5902	Br 3024	7.4		48	50.707	76.0	+3.1673-.0088	+0.009	+0.0028	0	.09	.57	.21	
5903	Groomb 3918 <i>m</i>	5.9		49	11.562	65.0	+2.6754+.0188	+0.017	-0.0015	0	.15	.70	.35	
5904	$\delta$ Aquarii	3.4		49	20.633	66.9	+3.1880-.0109	+0.009	-0.0033	0	.05	.20	.10	
5905	Br 3027	6.7		49	21.711	75.8	+3.1258-.0059	+0.008	-0.0016	0	.10	.46	.19	
5906	L 9295 <i>m</i>	7.2		49	26.550	94.7	+3.5157-.0444	+0.029	-0.0229+	2	.14	.96	.20	
5907	Br 3026	5.8		49	28.077	61.9	+3.1794-.0111	+0.010	-0.0152+	1	.12	.45	.25	
5908	Br 3030	6.3		49	52.522	80.5	+3.0700-.0016	+0.008	+0.0014	0	.09	.38	.15	
5909	Pi 250 <i>m</i>	6.1		49	59.798	76.0	+3.1124-.0047	+0.008	+0.0012	0	.10	.54	.21	
5910	$\rho$ Pegasi	5.0		50	11.597	76.6	+3.0188+.0022	+0.009	+0.0048	0	.11	.51	.20	
5911	$\delta$ Piscis Aust	4.4		50	24.665	83.9	+3.3344-.0237	+0.014	+0.0018	0	.11	.78	.23	
5912	Pulk <sub>ss</sub> 3358	5.8		51	4.896	87.0	+2.7881+.0151	+0.014	+0.0015	0	.11	.62	.18	
5913	Br 3034	5.7		51	49.602	73.3	+2.7305+.0177	+0.015	-0.0005	0	.09	.38	.16	
5914	Groomb 3930	5.1		52	2.885	63.1	+2.6202+.0218	+0.021	+0.0002	0	.15	.70	.36	
5915	Br 3033	6.6		52	6.602	84.8	+3.1074-.0045	+0.009	-0.0014	0	.08	.48	.15	
5916	$\alpha$ Piscis Aust	1.0		52	7.591	70.2	+3.3239-.0211	+0.013	+0.0250-	1	.03	.20	.09	
5917	Br 3035	5.7		52	33.125	72.2	+2.9440+.0080	+0.010	+0.0145	0	.09	.33	.15	
5918	Groomb 3933	5.2		52	39.271	75.2	+2.6418+.0214	+0.020	+0.0016	0	.09	.46	.19	
5919	L 9316	6.5		53	1.044	84.6	+3.3528-.0264	+0.016	+0.0001	0	.11	.70	.21	
5920	$\Lambda$ bo 533 <i>m</i>	6.7		53	30.938	76.7	+3.0395+.0027	+0.009	+0.0265+	1	.11	.56	.22	
5921	L 9321	5.8		54	7.672	79.1	+3.2902-.0206	+0.013	-0.0009	0	.11	.69	.24	
5922	Br 3037 <i>m</i>	6.0		54	11.591	60.2	+2.9991+.0038	+0.009	+0.0017	0	.14	.54	.30	
5923	Pi 264	6.6		54	19.749	78.9	+3.1630-.0090	+0.009	-0.0008	0	.09	.81	.27	
5924	Br 3036	5.7		54	19.940	74.6	+3.0749-.0014	+0.009	+0.0054	0	.10	.38	.17	
5925	Pi 267	6.0		54	40.964	85.0	+3.2539-.0171	+0.012	+0.0007	0	.13	.78	.24	
5926	$\zeta$ Gruis	4.1		54	58.676	78.9	+3.5667-.0527	+0.038	-0.0074+	1	.11	.58	.21	
5927	Br 3058	5.1		55	12.84	80.8	-0.302-.317		+0.063+	50	.07	.36	.13	
5928	L 9328	5.8		55	14.941	90.3	+3.5478-.0490	+0.035	+0.0073-	1	.20	1.04	.28	
5929	Br 3039	6.7		55	30.205	70.0	+3.0770-.0018	+0.009	+0.0024	0	.10	.36	.17	
5930	L 9333	5.9		55	51.835	92.8	+3.2844-.0200	+0.013	+0.0041	0	.14	.96	.22	
5931	Radcl 5911	5.4		55	52.169	82.4	+2.5170+.0262	+0.026	+0.0004	0	.11	.48	.17	
5932	Br 3040	6.7		56	11.828	74.0	+3.1196-.0055	+0.009	-0.0017	0	.09	.38	.16	
5933	$\sigma$ Andromedæ	3.7		57	19.113	78.8	+2.7518+.0190	+0.017	+0.0021	0	.03	.20	.07	
5934	Br 3042	6.7		57	21.115	70.3	+3.1174-.0052	+0.009	.0000	0	.11	.44	.21	
5935	$\pi$ Piscis Aust	5.2		57	57.905	80.8	+3.3325-.0254	+0.016	+0.0072-	1	.13	.81	.27	
5936	Br 3045	5.2		58	0.044	61.0	+2.7538+.0194	+0.017	+0.0055	0	.14	.44	.26	
5937	L 9337	5.7		58	15.638	87.7	+4.0190-.1256	+0.153	+0.0024-	2	.15	.80	.23	
5938	$\kappa$ Gruis	5.4		58	44.898	81.4	+3.5722-.0551	+0.042	+0.0050	0	.15	.81	.28	
5939	$\beta$ Piscium	4.5		58	47.276	61.3	+3.0528+.0002	+0.009	+0.0007	0	.07	.32	.17	
5940	$\beta$ Pegasi	Var.		58	55.535	75.3	+2.9032+.0119	+0.012	+0.0144	0	.04	.21	.08	
5941	L 9359	7.2		59	25.646	90.0	+3.2543-.0184	+0.013	-0.0011	0	.13	1.05	.25	
5942	Br 3052	4.8		59	41.539	64.7	+2.6821+.0238	+0.022	+0.0169+	1	.11	.38	.20	
5943	Br 3054	5.6		59	44.225	65.8	+2.2712+.0309	+0.041	+0.0043+	1	.10	.44	.22	
5944	$\alpha$ Pegasi	2.6		59	46.746	67.0	+2.9855+.0058	+0.010	+0.0040	0	.02	.12	.06	
5945	Br 3048 <i>m</i>	5.6	22	59	56.920	79.5	+3.1306-.0057	+0.009	+0.0082	0	.06	.30	.11	
5946	Br 3049	7.6	23	0	6.356	75.0	+3.1237-.0058	+0.009	+0.0010	0	.13	.57	.24	
5947	L 9332	6.3		0	14.915	86.1	+5.0523-.3773	+0.964	+0.0221-	10	.12	.90	.24	
5948	Br 3051	7.2		0	40.331	66.1	+3.1236-.0058	+0.009	+0.0003	0	.15	.44	.24	
5949	$\theta$ Gruis	4.4		1	14.838	82.3	+3.3960-.0353	+0.023	-0.0043	0	.09	.45	.16	
5950	Br 3053	4.7	23	1	18.630	81.1	+3.2301-.0158	+0.012	+0.0050	0	.10	.45	.16	

5903  $\beta$  382.  $5^m 9-8^m 0'' 9$  330°, slow binary,  $11^m 27'' 354^\circ$ .5906 Innes.  $7^m 6-8^m 6 0'' 5 \pm$ , 185°.5913  $\Sigma$  2960.  $11^m 27'' 345^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5901	-12 8 54.18	75.3	+19.072+.134	-.17	+.001 0	.06	.32	.13	74 Aquarii
5902	-12 43 17.14	74.4	+19.039+.133	-.18	-.049 0	.08	.44	.18	75 Aquarii
5903	+44 13 2.89	61.8	+19.098+.110	-.11	.000 0	.12	.56	.31	*
5904	-16 21 9.77	68.6	+19.081+.133	-.18	-.021 0	.05	.22	.10	
5905	-7 44 10.46	72.4	+19.068+.130	-.17	-.034 0	.09	.35	.16	78 Aquarii
5906	-49 1 34.38	92.0	+19.154+.146	-.25	+.050- 1	.12	.73	.18	71 G Gruis $\tau^2$ *
5907	-16 48 7.64	69.4	+19.024+.132	-.18	-.081- 1	.12	.42	.21	77 Aquarii
5908	+0 31 54.83	75.6	+19.123+.127	-.16	+.007 0	.08	.29	.13	1 Piscium
5909	-5 31 14.32	75.8	+19.116+.128	-.17	-.003 0	.09	.49	.19	$\beta$ 178. $6^M_3$ - $8^M_1$ 0''8 323°
5910	+8 16 56.75	67.6	+19.138+.124	-.15	+.014 0	.11	.40	.20	
5911	-33 4 26.53	79.4	+19.158+.137	-.21	+.028 0	.11	.59	.21	$\beta$ 772. $9^M_5$ 5'' 238°
5912	+35 49 4.52	85.4	+19.162+.112	-.13	+.015 0	.12	.57	.18	
5913	+41 4 11.56	64.1	+19.160+.109	-.12	-.006 0	.09	.28	.16	16 Lacertæ *
5914	+49 11 57.99	57.1	+19.160+.104	-.10	-.012 0	.13	.60	.34	
5915	-5 20 40.33	76.4	+19.182+.124	-.17	+.008 0	.08	.35	.14	
5916	-30 9 8.18	71.3	+19.008+.134	-.20	-.166+ 1	.04	.23	.10	Fomalhaut. Par., 0''13
5917	+20 13 56.83	70.6	+19.236+.117	-.14	+.051+ 1	.07	.28	.13	51 Pegasi
5918	+48 8 58.77	73.4	+19.173+.104	-.10	-.015 0	.09	.40	.17	
5919	-36 3 19.50	77.1	+19.076+.133	-.21	-.121 0	.13	.71	.27	67 G Piscis Aust
5920	+8 49 31.68	72.0	+19.058+.120	-.15	-.151+ 1	.10	.43	.19	$\alpha$ 536. $7^M_2$ - $7^M_7$ 0''3 165°, fixed
5921	-29 59 54.28	77.7	+19.227+.128	-.20	+.003 0	.11	.65	.24	68 G Piscis Aust
5922	+11 11 38.99	59.1	+19.185+.116	-.15	-.041 0	.12	.45	.26	52 Pegasi *
5923	-13 36 24.61	78.3	+19.238+.122	-.18	+.008 0	.07	.65	.22	Br 3035a
5924	+0 25 44.13	66.0	+19.164+.119	-.16	-.066 0	.11	.38	.20	2 Piscium
5925	-25 41 53.77	80.0	+19.162+.125	-.19	-.076 0	.13	.61	.22	69 G Piscis Aust
5926	-53 17 25.36	79.4	+19.241+.137	-.26	-.005 0	.09	.50	.18	
5927	+83 48 39.81	81.3	+19.281-.018		+.030+ 3	.06	.31	.11	36 H Cephei
5928	-51 29 12.66	84.6	+19.243+.136	-.25	-.009 0	.15	.71	.23	78 G Gruis
5929	-0 21 4.47	66.4	+19.271+.116	-.16	+.013 0	.08	.31	.16	3 Piscium
5930	-29 23 25.52	89.2	+19.281+.124	-.20	+.014 0	.16	1.16	.29	71 G Piscis Aust
5931	+56 24 31.82	88.6	+19.275+.093	-.09	+.008 0	.12	.64	.18	
5932	-7 35 53.41	72.0	+19.265+.117	-.17	-.010 0	.08	.32	.15	81 Aquarii
5933	+41 47 18.06	73.2	+19.281+.100	-.12	-.021 0	.04	.19	.08	
5934	-7 6 39.84	69.9	+19.263+.114	-.17	-.039 0	.09	.37	.17	82 Aquarii
5935	-35 17 24.24	77.0	+19.407+.122	-.21	+.090 0	.12	.71	.26	L 9350
5936	+42 13 11.27	59.2	+19.311+.099	-.12	-.007 0	.11	.39	.23	2 Andromedæ *
5937	-69 21 39.20	86.4	+19.404+.148	-.36	+.080 0	.12	.71	.21	80 G Indi
5938	-54 30 4.03	80.4	+19.216+.130	-.25	-.119 0	.12	.71	.24	
5939	+3 16 53.54	59.6	+19.328+.109	-.16	-.008 0	.06	.26	.15	
5940	+27 32 24.72	69.0	+19.472+.104	-.13	+.133+ 1	.04	.18	.08	$2^M_2$ to $2^M_7$
5941	-27 40 30.92	89.3	+19.318+.116	-.20	-.033 0	.14	1.31	.30	75 G Piscis Aust
5942	+49 30 29.82	54.4	+19.518+.094	-.11	+.161+ 1	.11	.35	.22	3 Andromedæ
5943	+66 40 12.50	65.5	+19.378+.078	-.07	+.020 0	.07	.35	.17	
5944	+14 40 1.47	64.5	+19.314+.105	-.15	-.045 0	.02	.12	.06	Markab
5945	-8 14 0.78	69.9	+19.380+.110	-.17	+.017 0	.05	.22	.10	83 Aquarii ( $h^1$ ) $h^*$
5946	-8 17 39.13	70.9	+19.368+.109	-.17	+.002 0	.11	.41	.19	84 Aquarii ( $h^2$ )
5947	-80 1 12.69	86.2	+19.351+.183	-.67	-.018+ 1	.09	.71	.19	79 G Octantis
5948	-8 28 35.30	54.8	+19.383+.108	-.17	+.004 0	.10	.30	.19	85 Aquarii ( $h^3$ )
5949	-44 3 37.73	82.0	+19.358+.117	-.22	-.034 0	.08	.40	.14	Jacob. $8^M$ 2'' 25°, slow binary
5950	-24 17 0.31	83.2	+19.393+.111	-.19	.000 0	.09	.38	.14	86 Aquarii $c^1$

5922  $\alpha$  483.  $6^M_2$ - $7^M_7$  1'' 225°, slow binary.5936  $\beta$  1147.  $9^M$  0''4 330°, slow.5945 Aitken 417.  $6^M_4$ - $6^M_4$  0''2, rapid binary.

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors. $\alpha$ Ep. 100 $\mu$ $\alpha$ 10		
		<sup>m</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
5951	v Gruis	5.8	23 1 19.678	88.2	+3.3552-.0296	+0.019	+0.0046 0	.12	.75	.20
5952	Br 3056	4.8	1 57.991	67.1	+3.0206+.0031	+0.009	+0.0005 0	.10	.38	.19
5953	Br 3055	7.7	1 59.832	70.1	+3.1232-.0056	+0.009	+0.0024 0	.15	.57	.27
5954	Br 3057	4.9	2 14.421	67.4	+2.9174+.0109	+0.011	.0000 0	.10	.45	.22
5955	Br 3061	4.9	2 23.062	73.9	+2.5229+.0297	+0.031	+0.0013 0	.09	.34	.16
5956	Pi 305	6.0	2 56.563	81.2	+3.2544-.0195	+0.013	-.0032 0	.12	.58	.21
5957	Br 3063	5.6	3 4.885	76.0	+2.7335+.0222	+0.020	-.0005 0	.09	.33	.14
5958	Br 3064	6.0	3 12.713	71.1	+2.7136+.0241	+0.021	+0.0150+ 1	.09	.34	.16
5959	Br 3059	5.7	3 33.583	70.8	+3.0724-.0005	+0.009	+0.0091 0	.09	.26	.13
5960	Br 3062	3.8	4 6.941	82.2	+3.2041-.0138	+0.011	+0.0033 0	.05	.27	.09
5961	L 9381	6.1	4 24.299	84.6	+3.3443-.0336	+0.023	-.0316+ 3	.15	.84	.26
5962	Br 3068	5.3	4 28.606	49.5	+3.0267+.0029	+0.009	+0.0002 0	.15	.51	.34
5963	Br 3065	4.9	4 34.484	80.7	+3.2091-.0146	+0.011	+0.0009 0	.09	.39	.15
5964	L 9384	6.2	4 35.821	86.6	+3.3545-.0312	+0.020	+0.0027 0	.14	.78	.23
5965	v Gruis	4.0	4 42.024	73.9	+3.4138-.0376	+0.025	+0.0132- 1	.11	.56	.23
5966	$\pi$ Cephei	4.6	4 42.951	81.2	+1.8964+.0246	+0.047	+0.0030+ 2	.04	.22	.08
5967	Br 3069	5.4	4 59.346	55.1	+3.0198+.0035	+0.009	-.0006 0	.15	.50	.31
5968	L 9388	6.7	5 22.371	87.8	+3.2530-.0200	+0.013	-.0020 0	.13	1.00	.26
5969	Br 3071	5.8	5 27.321	69.7	+2.5518+.0307	+0.033	-.0005 0	.10	.38	.18
5970	Pi 2	7.4	5 28.943	70.5	+3.1088-.0045	+0.009	+0.0006 0	.14	.68	.30
5971	Pi 4	6.0	5 44.406	74.0	+2.9765+.0073	+0.010	+0.0003 0	.12	.66	.27
5972	Br 3070	6.1	5 49.824	67.0	+2.7621+.0207	+0.018	-.0183- 1	.08	.28	.15
5973	Br 3072	5.3	6 41.222	62.0	+3.0270+.0030	+0.009	-.0011 0	.10	.38	.21
5974	Br 3073	6.5	6 57.880	71.2	+2.9064+.0119	+0.012	-.0144 0	.07	.28	.13
5975	Br 3075	4.6	7 58.015	72.9	+2.7375+.0251	+0.022	+0.0095+ 1	.08	.27	.13
5976	Br 3077	5.7	8 27.920	82.8	+2.8723+.0375	+0.030	+0.2522+36	.04	.27	.08
5977	Dpt 2803	8.0	8 51.818	87.5	+3.1592-.0061	+0.009	+0.0375 0	.09	.51	.15
5978	$\phi$ Aquarii	4.4	9 8.613	70.7	+3.1081-.0043	+0.009	+0.0018 0	.04	.20	.09
5979	L 9407	6.1	9 25.871	88.1	+3.3416-.0314	+0.021	+0.0091 0	.12	.68	.19
5980	Pulk <sub>ss</sub> 3405	5.6	10 25.171	76.2	+3.0914-.0030	+0.009	-.0012 0	.10	.63	.23
5981	Br 3078	4.4	10 39.169	69.6	+3.1456-.0060	+0.010	+0.0248 0	.05	.26	.12
5982	Br 3080	6.7	10 53.175	81.2	+2.9242+.0131	+0.012	+0.0011 0	.09	.33	.13
5983	L 9412	5.8	10 57.027	83.3	+3.6435-.0781	+0.076	+0.0248- 4	.13	.69	.23
5984	Br 3085	5.9	11 3.777	73.1	+2.1170+.0373	+0.065	+0.0123+ 4	.09	.51	.21
5985	$\gamma$ Tucanæ	4.1	11 35.699	71.8	+3.5299-.0636	+0.056	-.0048 0	.10	.40	.18
5986	$\chi$ Aquarii	5.3	11 39.976	69.2	+3.1118-.0052	+0.009	-.0012 0	.09	.34	.16
5987	Br 3086	5.7	11 46.245	77.7	+2.2932+.0398	+0.059	+0.0024 0	.10	.56	.21
5988	$\gamma$ Piscium	3.8	11 58.869	72.0	+3.1093+.0007	+0.009	+0.0502 0	.03	.16	.07
5989	Br 3084	5.8	12 8.706	72.0	+2.7218+.0291	+0.027	+0.0128+ 2	.08	.36	.16
5990	Groomb 4025	6.8	12 34.418	72.6	+2.8111+.0233	+0.020	+0.0097+ 1	.13	.58	.26
5991	$\phi$ Gruis	5.8	12 38.863	86.6	+3.3259-.0308	+0.020	+0.0121- 1	.16	.75	.24
5992	Br 3083	4.5	12 42.399	68.7	+3.1202-.0059	+0.010	+0.0009 0	.06	.27	.13
5993	Br 3089	5.0	13 6.395	74.2	+2.7696+.0259	+0.022	+0.0038 0	.09	.28	.14
5994	$\tau$ Octantis	5.7	13 9.35	72.8	+10.979-5.236		+0.015- 56	.04	.28	.12
5995	$\gamma$ Sculptoris	4.5	13 25.555	81.0	+3.2500-.0220	+0.015	+0.0020 0	.07	.39	.13
5996	Br 3091	6.1	13 38.594	71.6	+2.8363+.0211	+0.018	-.0008 0	.11	.45	.21
5997	Br 3087	5.2	13 45.613	67.0	+3.1235-.0061	+0.010	+0.0032 0	.06	.27	.13
5998	Br 3088	5.4	13 51.118	71.3	+3.1593-.0084	+0.010	+0.0203 0	.07	.34	.15
5999	Br 3090	5.8	14 12.877	72.2	+3.1116-.0036	+0.009	+0.0129 0	.06	.26	.12
6000	$\alpha$ Cephei	5.1	23 14 30.990	80.0	+2.4453+.0416	+0.055	+0.0111+ 2	.06	.33	.12

5962  $\Sigma$  2982.  $10^M 5.32''$  198°.5981  $\Sigma$  App.  $9^M 49''$  312°; BC =  $\beta$  1220.  $9^M 6-9^M 7 < 0''.5$ .



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu'$ $\delta$ 10			Remarks.
	" ' "		" "	"	"	"	"	"	
5951	-39 25 58.45	83.7	+19.410+.116	-.21	+0.017 0	.12	.58	.19	
5952	+8 52 9.03	57.4	+19.394+.102	-.15	-.014 0	.08	.27	.16	55 Pegasi
5953	-8 14 2.55	69.4	+19.354+.106	-.17	-.054 0	.12	.47	.23	87 Aquarii ( $h^4$ )
5954	+24 55 42.03	65.6	+19.376+.098	-.14	-.038 0	.08	.35	.17	56 Pegasi
5955	+58 52 45.51	60.8	+19.423+.083	-.09	+0.006 0	.09	.28	.16	1 Cassiopeiae
5956	-29 21 49.96	78.1	+19.396+.109	-.20	-.033 0	.12	.58	.22	2 G Sculptoris
5957	+45 50 49.04	71.5	+19.402+.090	-.12	-.030 0	.09	.28	.14	4 Andromedæ
5958	+48 45 3.22	67.4	+19.561+.090	-.11	+0.126+1	.08	.31	.16	5 Andromedæ
5959	+1 34 59.98	70.3	+19.552+.101	-.16	+0.110 0	.07	.25	.12	5 Piscium A
5960	-21 42 54.94	81.6	+19.491+.105	-.18	+0.037 0	.06	.28	.10	88 Aquarii $c^2$
5961	-43 24 8.54	81.7	+19.485+.108	-.22	+0.025-1	.12	.69	.23	88 G Gruis
5962	+8 8 6.18	42.8	+19.463+.098	-.15	+0.002 0	.12	.44	.32	57 Pegasi *
5963	-22 59 58.22	80.4	+19.459+.104	-.19	-.004 0	.09	.39	.15	89 Aquarii $c^3$
5964	-41 7 57.35	83.3	+19.428+.109	-.21	-.036 0	.12	.63	.21	89 G Gruis
5965	-45 47 18.56	76.0	+19.426+.111	-.22	-.040 0	.09	.55	.21	
5966	+74 50 48.56	78.6	+19.441+.058	-.04	-.025 0	.04	.20	.08	02 489. $7^m 1''$ , binary
5967	+9 16 46.84	43.4	+19.450+.096	-.15	-.022 0	.10	.36	.26	58 Pegasi
5968	-30 3 57.78	87.5	+19.440+.104	-.20	-.040 0	.13	1.17	.29	4 G Sculptoris
5969	+58 47 25.61	58.3	+19.496+.080	-.10	+0.014 0	.09	.29	.18	2 Cassiopeiae
5970	-6 30 11.02	71.9	+19.473+.098	-.17	-.009 0	.13	.51	.23	
5971	+17 3 8.24	73.4	+19.455+.094	-.15	-.033 0	.13	.55	.24	
5972	+43 0 25.05	63.7	+19.302+.085	-.12	-.188-1	.08	.27	.15	6 Andromedæ
5973	+8 10 37.11	57.2	+19.501+.094	-.15	-.006 0	.11	.39	.23	59 Pegasi
5974	+26 18 25.24	72.1	+19.390+.088	-.14	-.122 0	.06	.27	.12	60 Pegasi
5975	+48 51 35.37	62.8	+19.628+.082	-.12	+0.096 0	.07	.23	.13	7 Andromedæ
5976	+56 36 58.27	81.8	+19.838+.090	-.10	+0.296+5	.05	.27	.09	Parallax 0".13
5977	-9 28 4.31	82.4	+19.504+.095	-.17	-.046+1	.08	.39	.14	$\Sigma$ 2993. $8^m 5 25''$ $177^\circ$ , fixed
5978	-6 35 17.31	70.8	+19.364+.092	-.17	-.191 0	.04	.18	.08	
5979	-41 38 49.98	86.6	+19.441+.099	-.21	-.120 0	.11	.57	.17	92 G Gruis
5980	-4 2 29.64	74.6	+19.580+.088	-.17	.000 0	.09	.61	.23	
5981	-9 37 57.57	67.2	+19.571+.090	-.17	-.013+1	.05	.20	.10	91 Aquarii $\psi^1$ *
5982	+27 42 9.52	76.6	+19.585+.082	-.14	-.003 0	.08	.31	.13	61 Pegasi
5983	-62 32 46.48	84.0	+19.555+.105	-.27	-.035+1	.11	.63	.20	25 G Tucanæ
5984	+73 41 9.63	76.0	+19.597+.058	-.06	+0.005 0	.07	.36	.14	
5985	-58 47 2.51	73.2	+19.682+.099	-.25	+0.081 0	.08	.38	.16	
5986	-8 16 19.22	60.0	+19.590+.087	-.17	-.013 0	.07	.26	.15	
5987	+70 20 33.88	69.2	+19.617+.062	-.07	+0.012 0	.10	.36	.18	
5988	+2 44 8.83	73.4	+19.627+.088	-.16	+0.019+2	.03	.16	.06	
5989	+52 40 26.79	69.1	+19.367+.074	-.11	-.244 0	.09	.33	.16	
5990	+44 37 10.63	66.0	+19.545+.076	-.13	-.074 0	.13	.50	.26	
5991	-41 22 2.56	83.9	+19.496+.092	-.21	-.124 0	.14	.64	.22	
5992	-9 43 42.53	67.6	+19.618+.085	-.17	-.003 0	.06	.23	.11	93 Aquarii $\psi^2$
5993	+48 28 7.45	67.2	+19.635+.074	-.12	+0.006 0	.08	.24	.13	8 Andromedæ
5994	-88 1 52.93	74.8	+19.643+.317	-.03	+0.013 0	.04	.26	.10	
5995	-33 4 36.56	79.5	+19.568+.088	-.20	-.066 0	.07	.38	.14	
5996	+41 13 38.72	64.5	+19.632+.075	-.13	-.006 0	.10	.38	.20	9 Andromedæ
5997	-10 9 27.05	62.6	+19.642+.083	-.17	+0.002 0	.06	.24	.13	95 Aquarii $\psi^3$ *
5998	-14 0 10.95	72.1	+19.536+.084	-.18	-.106+1	.06	.31	.13	94 Aquarii *
5999	-5 40 15.06	64.4	+19.632+.082	-.17	-.016 0	.06	.21	.11	96 Aquarii *
6000	+67 33 51.48	66.7	+19.670+.062	-.08	+0.017 0	.05	.20	.10	$\Sigma$ 3001. $7^m 8 3''$ $198^\circ$ , slow

5997 Hough.  $12^m 1'' 210^\circ \pm$ , slow.5998  $\Sigma$  2998.  $7^m 4 13'' 347^\circ$ .5999 h 5394.  $11^m 10'' 20^\circ$ .

No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		M	h m s		s s	s	s	"	"	"
6001	Br 3093	5.5	23 14 50.129	64.6	+2.7826+.0259	+0.022	+0.0017 0	.13	.48	.25
6002	Br 3094	6.6	14 59.693	73.6	+2.8046+.0262	+0.023	+0.0202+ 2	.09	.44	.18
6003	Br 3095	6.0	15 6.674	78.8	+2.8458+.0216	+0.019	+0.0038 0	.11	.40	.16
6004	Br 3092	5.3	15 14.884	54.6	+3.0556+.0019	+0.009	+0.0052 0	.13	.44	.28
6005	$\tau$ Pegasi	4.6	15 41.197	84.0	+2.9643+.0111	+0.012	+0.0020 0	.04	.27	.08
6006	Br 3098	6.0	15 55.607	68.7	+2.9315+.0148	+0.013	+0.0059 0	.14	.54	.26
6007	Pi 55	6.0	15 55.867	85.2	+3.2034-.0172	+0.013	-.0021 0	.11	.66	.20
6008	Br 3099	6.0	16 3.557	65.8	+2.8857+.0194	+0.017	+0.0097+ 1	.12	.51	.26
6009	Br 3103	5.6	17 1.929	75.8	+2.9218+.0156	+0.013	+0.0007 0	.11	.45	.19
6010	Br 3102 <i>m</i>	5.4	17 24.727	73.8	+3.1488-.0091	+0.010	+0.0076 0	.09	.44	.18
6011	Br 3106	6.5	17 41.653	63.5	+2.9824+.0098	+0.011	+0.0007 0	.14	.50	.27
6012	Br 3105	4.2	17 43.183	68.1	+3.1560-.0122	+0.011	-.0087 0	.07	.33	.15
6013	Br 3107	6.9	17 47.599	73.5	+3.0058+.0098	+0.011	+0.0226+ 1	.11	.48	.21
6014	Pi 64	7.8	17 49.975	80.6	+3.1512-.0067	+0.010	+0.0299- 1	.07	.90	.27
6015	Br 3108	5.3	18 1.917	76.0	+3.0232+.0055	+0.010	+0.0016 0	.10	.39	.17
6016	Br 3110	5.8	18 4.734	72.6	+2.6584+.0362	+0.038	+0.0001 0	.11	.58	.25
6017	Pi 69	7.2	18 34.486	71.8	+3.1096-.0052	+0.010	-.0008 0	.16	.62	.29
6018	L 9457	5.9	18 36.818	89.6	+3.3838-.0465	+0.037	-.0007 0	.20	1.02	.28
6019	Pi 70	6.9	18 48.014	80.9	+3.1652-.0132	+0.011	-.0052 0	.12	.57	.21
6020	Br 3109	6.9	18 52.478	65.8	+2.9414+.0164	+0.014	+0.0180+ 1	.09	.34	.18
6021	Br 3112 <i>m</i>	7.1	19 35.030	67.0	+2.7150+.0345	+0.034	+0.0035 0	.13	.70	.33
6022	L 9463	5.8	19 37.337	81.3	+3.4489-.0577	+0.051	+0.0103- 1	.14	.69	.24
6023	Br 3111	5.7	19 57.029	73.9	+2.9285+.0162	+0.014	+0.0004 0	.10	.32	.15
6024	$\nu$ Pegasi	4.6	20 23.234	78.8	+2.9892+.0114	+0.012	+0.0137+ 1	.05	.21	.08
6025	Br 3115	5.2	20 23.606	80.9	+2.6466+.0394	+0.043	+0.0017 0	.05	.26	.09
6026	Br 3113	4.5	20 47.642	66.0	+3.1562-.0124	+0.011	-.0043 0	.10	.32	.17
6027	L 9470	5.7	21 0.859	86.1	+3.3770-.0478	+0.039	+0.0014- 1	.14	.75	.23
6028	Pi 82	6.9	21 19.198	77.9	+3.1670-.0132	+0.011	+0.0026 0	.10	.46	.18
6029	L 9474	5.7	21 32.882	86.6	+3.4493-.0616	+0.057	+0.0051- 1	.18	.87	.27
6030	L 9476	6.6	21 36.357	89.4	+3.3467-.0428	+0.034	+0.0020 0	.15	.75	.22
6031	$\kappa$ Piscium	5.0	21 48.367	74.7	+3.0753+.0001	+0.009	+0.0057 0	.03	.20	.08
6032	Br 3121	7.1	22 2.544	75.7	+2.4693+.0494	+0.072	+0.0068+ 1	.10	.56	.21
6033	Br 3117	6.5	22 7.425	73.9	+3.0730 .0000	+0.009	+0.0029 0	.09	.30	.14
6034	Br 3118	5.8	22 18.119	78.4	+2.8808+.0234	+0.019	+0.0080+ 1	.10	.32	.14
6035	L 9485	6.6	22 38.740	86.7	+3.2308-.0240	+0.018	+0.0003 0	.10	.57	.17
6036	Br 3119	6.2	22 42.209	56.8	+2.9749+.0125	+0.012	+0.0018 0	.15	.57	.34
6037	$\theta$ Piscium	4.5	22 53.700	72.4	+3.0415+.0028	+0.009	-.0088 0	.05	.24	.10
6038	Br 3125	5.8	23 2.841	66.3	+2.5136+.0510	+0.073	+0.0247+ 6	.09	.40	.20
6039	L 9483	5.8	23 13.661	86.3	+3.5080-.0768	+0.082	+0.0044- 1	.15	.78	.24
6040	Br 3122	4.7	24 5.796	84.7	+3.0310+.0061	+0.010	+0.0038 0	.04	.32	.09
6041	Br 3123	6.9	24 19.026	72.7	+3.0796-.0014	+0.009	-.0012 0	.09	.34	.16
6042	Pi 96	6.5	24 21.886	79.4	+3.1022-.0028	+0.009	+0.0115 0	.07	.39	.14
6043	Br 3124	7.0	24 22.594	73.4	+3.0766-.0009	+0.009	-.0015 0	.13	.39	.19
6044	Br 3131	6.9	25 1.999	70.4	+2.3275+.0558	+0.104	-.0037- 1	.11	.57	.25
6045	L 9499	7.8	25 23.850	88.2	+3.1685-.0146	+0.012	+0.0035 0	.14	1.05	.27
6046	Pi 101	5.0	25 24.745	65.8	+2.7539+.0375	+0.038	+0.0031 0	.10	.39	.20
6047	L 9502	6.3	26 0.857	83.4	+3.2739-.0340	+0.025	+0.0011 0	.15	.87	.28
6048	Pi 103	6.8	26 21.573	80.5	+3.0996-.0024	+0.009	+0.0114 0	.09	.60	.20
6049	Br 3128	5.3	26 22.232	67.2	+2.9400+.0217	+0.017	+0.0241+ 2	.08	.28	.14
6050	Br 3126	6.5	23 26 27.519	81.6	+3.1508-.0125	+0.011	.0000 0	.12	.50	.18

6009  $\beta$  718.  $9^m 0''6 87^\circ$ , fixed.6010 Hussey.  $5^m 7-7^m 0 0''4 84^\circ$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100 \Delta \mu'$	Prob. Errors. $\delta$ Ep. $100 \mu' \delta 10$			Remarks.
	" ' "		" "	"	"	"	"	"	
6001	+48 4 36.42	56.2	+19.716+.071	-.13	+.057 0	.12	.37	.23	11 Andromedæ
6002	+47 49 58.23	70.8	+19.693+.072	-.12	+.031+ 1	.09	.37	.17	
6003	+41 31 49.74	73.5	+19.672+.072	-.13	+.008 0	.09	.32	.15	10 Andromedæ
6004	+ 4 50 7.42	56.0	+19.603+.078	-.16	-.063 0	.12	.46	.28	7 Piscium <i>b</i>
6005	+23 11 34.26	80.4	+19.652+.075	-.15	-.021 0	.04	.26	.09	
6006	+29 52 8.97	63.5	+19.610+.074	-.14	-.067 0	.13	.44	.24	63 Pegasi
6007	-27 32 4.19	85.5	+19.631+.081	-.19	-.046 0	.10	.53	.16	11 G Sculptoris
6008	+37 38 10.23	66.3	+19.602+.072	-.14	-.078 0	.11	.46	.23	12 Andromedæ
6009	+31 15 51.70	72.4	+19.675+.071	-.14	-.021 0	.09	.39	.17	64 Pegasi *
6010	-15 35 17.60	72.8	+19.723+.077	-.18	+.021 0	.07	.37	.16	97 Aquarii *
6011	+20 16 49.97	64.1	+19.692+.072	-.15	-.014 0	.13	.44	.24	65 Pegasi
6012	-20 38 47.34	72.1	+19.614+.076	-.18	-.093 0	.08	.42	.18	98 Aquarii <i>b</i> <sup>1</sup>
6013	+20 0 38.38	70.5	+19.689+.072	-.15	-.019+ 1	.09	.43	.19	$\Sigma$ 3007. $10^M 6'' 82^\circ$
6014	-11 19 12.69	81.1	+19.956+.076	-.17	+.248+ 1	.08	.65	.20	
6015	+11 45 56.08	74.2	+19.693+.072	-.16	-.019 0	.09	.35	.16	66 Pegasi
6016	+59 35 6.11	67.4	+19.709+.062	-.11	-.003 0	.10	.38	.19	
6017	- 9 0 30.51	63.0	+19.710+.073	-.17	-.010 0	.12	.42	.23	$\Sigma$ 3008. $8^M 4'' 240^\circ$ , rel. mot.
6018	-52 26 21.15	82.7	+19.690+.080	-.22	-.031 0	.14	.67	.23	106 G Gruis
6019	-22 19 16.85	81.1	+19.648+.074	-.18	-.076 0	.11	.55	.19	233 G Aquarii
6020	+31 58 53.16	62.4	+19.768+.069	-.14	+.043 0	.08	.36	.19	
6021	+56 59 11.24	64.8	+19.737+.061	-.11	+.001 0	.11	.51	.26	02 495. $7^M 8-8^M 0 0'' 3 128^\circ$
6022	-57 23 52.87	80.3	+19.708+.080	-.23	-.029 0	.11	.57	.20	29 G Tucanæ
6023	+31 50 7.67	70.3	+19.741+.066	-.15	-.001 0	.09	.31	.15	67 Pegasi
6024	+22 51 12.33	73.8	+19.776+.067	-.15	+.028 0	.04	.21	.09	
6025	+61 44 1.50	76.5	+19.740+.058	-.11	-.008 0	.04	.18	.08	4 Cassiopeia
6026	-21 11 24.65	72.4	+19.696+.070	-.18	-.058 0	.10	.33	.16	99 Aquarii <i>b</i> <sup>2</sup>
6027	-53 16 30.75	84.6	+19.875+.075	-.22	+.117 0	.11	.65	.20	107 G Gruis <i>o</i>
6028	-22 17 27.18	83.8	+19.765+.069	-.18	+.003 0	.09	.45	.15	236 G Aquarii *
6029	-59 1 41.74	82.2	+19.847+.076	-.24	+.082 0	.14	.67	.23	32 G Tucanæ
6030	-50 42 27.98	85.7	+19.753+.073	-.21	-.013 0	.12	.54	.18	1 G Phœnicis
6031	+ 0 42 29.14	74.4	+19.679+.066	-.17	-.090 0	.03	.18	.07	
6032	+70 8 5.07	70.7	+19.812+.051	-.08	+.040 0	.10	.40	.18	$\beta$ 386. $12^M 20'' 313^\circ$
6033	+ 0 34 23.53	72.0	+19.741+.065	-.17	-.033 0	.08	.29	.14	9 Piscium
6034	+42 21 40.42	69.6	+19.790+.060	-.14	+.014 0	.09	.27	.14	13 Andromedæ
6035	-36 5 42.81	84.3	+19.771+.068	-.19	-.010 0	.11	.57	.18	13 G Sculptoris
6036	+24 37 3.80	55.2	+19.735+.062	-.15	-.047 0	.14	.57	.34	69 Pegasi
6037	+ 5 49 46.58	69.8	+19.742+.063	-.16	-.043 0	.04	.21	.10	
6038	+69 48 34.54	65.9	+19.786+.051	-.09	-.001+ 1	.07	.30	.15	
6039	-63 39 40.14	86.4	+19.789+.073	-.24	.000 0	.12	.71	.21	33 G Tucanæ
6040	+12 12 31.52	81.2	+19.828+.061	-.16	+.027 0	.05	.27	.09	70 Pegasi <i>q</i>
6041	- 2 20 30.12	71.3	+19.785+.061	-.17	-.019 0	.09	.34	.16	11 Piscium
6042	- 5 4 38.93	78.4	+19.579+.062	-.17	-.226 0	.06	.37	.13	
6043	- 1 35 9.49	71.0	+19.788+.061	-.17	-.017 0	.11	.35	.18	12 Piscium
6044	+74 40 27.81	68.7	+19.799+.043	-.07	-.015 0	.11	.44	.21	
6045	-24 44 55.00	87.7	+19.841+.061	-.18	+.022 0	.13	1.12	.28	
6046	+57 59 51.52	52.5	+19.832+.052	-.12	+.013 0	.08	.34	.21	02 496. $11^M 1'' 343^\circ$
6047	-45 23 41.05	83.0	+19.812+.062	-.21	-.015 0	.12	.80	.25	5 G Phœnicis
6048	- 4 38 1.86	80.0	+19.651+.058	-.17	-.179 0	.08	.50	.17	
6049	+38 41 12.42	65.3	+19.749+.055	-.14	-.082 0	.07	.26	.13	14 Andromedæ
6050	-21 55 17.24	78.3	+19.830+.058	-.18	-.003 0	.12	.43	.18	100 Aquarii ( <i>b</i> <sup>3</sup> )



No.	Designation.	Mag.	R. A. 1900	Epoch.	An. Var. and Sec. Var.	3at	$\mu$ and 100 $\Delta\mu$	Prob. Errors.		
								$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
		<sup>M</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>		<sup>s</sup> <sup>s</sup>	<sup>s</sup>	<sup>s</sup>	"	"	"
6051	Br 3129	6.7	23 26 49.692	61.3	+3.0777-.0008	+ .009	-.0001 0	.14	.39	.24
6052	L 9494	6.0	26 52.129	89.9	+3.9765-.2200	+ .496	+ .0032- 1	.13	.98	.24
6053	Groomb 4084	8.5	27 11.002	75.3	+2.8951+.0247	+ .020	+ .0023 0	.16	.75	.31
6054	$\beta$ Sculptoris	4.6	27 36.642	82.9	+3.2291-.0258	+ .019	+ .0077- 1	.08	.40	.14
6055	L 9505	8.4	27 43.888	87.5	+3.7488-.1516	+ .264	+ .0098- 3	.15	.78	.23
6056	Br 3147	5.9	27 48.78	79.9	-0.133-.566		+ .095+ .157	.04	.21	.07
6057	Br 3130	4.7	28 2.683	68.6	+3.1449-.0121	+ .012	-.0005 0	.07	.33	.16
6058	Br 3132	5.8	28 27.498	59.3	+2.9979+.0115	+ .011	-.0006 0	.10	.44	.24
6059	Br 3134 <i>m</i>	5.2	28 59.429	83.3	+2.9690+.0166	+ .014	+ .0040 0	.06	.44	.13
6060	Br 3133	6.2	29 0.517	73.7	+3.0851-.0008	+ .009	+ .0071 0	.09	.32	.14
6061	Br 3136	5.9	29 41.487	62.4	+2.9580+.0180	+ .015	-.0001 0	.20	.62	.35
6062	$\iota$ Phœnicis	4.8	29 41.827	78.6	+3.2399-.0307	+ .023	+ .0023 0	.11	.54	.20
6063	Br 3137	5.8	29 43.925	70.8	+2.9252+.0224	+ .018	-.0011 0	.10	.42	.19
6064	Br 3138	6.8	30 21.838	77.4	+3.0669+.0006	+ .009	-.0031 0	.11	.32	.15
6065	Pi 126	6.7	30 22.557	84.0	+3.0960-.0040	+ .010	-.0006 0	.07	.44	.13
6066	Pi 130	6.8	30 54.554	82.0	+3.1577-.0160	+ .014	-.0024 0	.12	.64	.22
6067	Br 3139	5.9	31 17.091	72.8	+3.0603+.0011	+ .010	-.0075 0	.08	.28	.14
6068	L 9535	4.9	32 28.084	85.6	+3.2447-.0339	+ .026	+ .0062- 1	.13	.81	.24
6069	Pi 133	6.0	32 28.486	66.6	+3.1129-.0070	+ .011	+ .0018 0	.10	.51	.24
6070	Br 3141	6.4	32 35.731	58.6	+3.0341+.0088	+ .011	+ .0083 0	.16	.54	.32
6071	$\lambda$ Andromedæ	3.8	32 40.034	72.4	+2.9231+.0282	+ .023	+ .0149+ 2	.04	.16	.07
6072	Br 3142	5.6	32 53.796	70.7	+3.0251+.0096	+ .011	+ .0035 0	.10	.45	.20
6073	$\iota$ Andromedæ	4.3	33 13.775	78.3	+2.9309+.0253	+ .021	+ .0024 0	.04	.21	.08
6074	L 9543	6.7	34 5.907	73.4	+3.2373-.0351	+ .028	+ .0022 0	.14	.57	.25
6075	Br 3146	5.4	34 17.455	78.7	+2.8933+.0316	+ .027	-.0013 0	.10	.32	.14
6076	Br 3145	5.2	34 35.915	69.7	+3.1152-.0076	+ .011	+ .0039 0	.12	.40	.20
6077	$\iota$ Piscium	4.2	34 48.387	71.0	+3.0841+.0032	+ .010	+ .0248 0	.03	.15	.06
6078	$\gamma$ Cephei	3.4	35 14.436	64.8	+2.4266+.0753	+ .169	-.0179- 10	.03	.13	.06
6079	$\mu$ Sculptoris	5.5	35 23.379	83.9	+3.1558-.0196	+ .016	-.0082 0	.11	.69	.21
6080	$\kappa$ Andromedæ	4.3	35 28.821	76.1	+2.9429+.0266	+ .022	+ .0073+ 1	.04	.22	.09
6081	Pi 153	6.3	35 58.396	69.0	+3.1069-.0061	+ .010	+ .0042 0	.08	.52	.23
6082	Br 3150	5.8	36 23.350	72.5	+3.1156-.0098	+ .012	-.0029 0	.11	.38	.18
6083	Br 3151	5.0	36 34.381	71.6	+3.1188-.0096	+ .012	+ .0012 0	.12	.42	.20
6084	$\lambda$ Piscium	4.7	36 56.618	70.2	+3.0603+.0012	+ .010	-.0092 0	.07	.30	.14
6085	Paris 34102	5.7	37 17.043	92.1	+3.1117-.0082	+ .011	+ .0014 0	.11	.64	.16
6086	Groomb 4128	6.7	37 19.156	64.5	+2.9416+.0273	+ .023	-.0013 0	.18	.68	.36
6087	Br 3154	4.7	37 32.216	82.1	+3.1136-.0077	+ .011	+ .0060 0	.05	.33	.10
6088	Br 3156	6.7	37 39.181	77.5	+3.0414+.0088	+ .011	+ .0058 0	.10	.45	.18
6089	Br 3157	5.5	38 16.928	60.4	+3.0505+.0057	+ .010	-.0001 0	.14	.50	.28
6090	L 9560	5.9	38 36.166	86.3	+3.7526-.2276	+ .589	+ .0179- 8	.11	.92	.24
6091	<i>R</i> Aquarii	Var.	38 38.776	82.2	+3.1074-.0080	+ .011	-.0002 0	.12	.60	.20
6092	L 9571	5.9	38 41.520	81.2	+3.3385-.0741	+ .087	+ .0006 0	.15	.78	.27
6093	L 9566	6.3	38 42.231	87.6	+3.4818-.1092	+ .158	+ .0484- 14	.15	.80	.23
6094	Br 3160	5.1	38 57.578	73.3	+3.0104+.0164	+ .014	+ .0054 0	.09	.39	.16
6095	Br 3159	5.4	39 0.927	78.2	+3.1160-.0098	+ .012	+ .0020 0	.07	.33	.13
6096	Pi 169	8.0	39 32.952	88.8	+3.0901-.0041	+ .010	-.0011 0	.16	.75	.23
6097	Pi 175	6.7	39 55.722	67.8	+2.9069+.0390	+ .036	+ .0030 0	.15	.50	.26
6098	L 9582	6.8	40 44.704	83.0	+3.1759-.0266	+ .021	+ .0070- 1	.12	.64	.21
6099	Br 3161	5.6	40 49.264	66.9	+3.1195-.0100	+ .012	+ .0082 0	.13	.48	.24
6100	Pi 179	8.2	23 40 52.759	72.8	+3.0719+.0006	+ .010	-.0010 0	.18	.75	.33

6059  $\beta$  720.  $6^{\text{M}}0-6^{\text{M}}0\ 0^{\text{S}}.4\ 165^{\circ}$ , binary.6074 Dunlop.  $7^{\text{M}}6\ 4^{\text{S}}\ 272^{\circ}$ .6087  $\beta$  279.  $11^{\text{M}}\ 5^{\text{S}}\ 85^{\circ}$ .

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and 100 $\Delta \mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 8 10	Remarks.
	" ' "		" "	" "	" "	" "	
6051	- 1 38 17.59	63.9	+19.860+.056	-.17	+.023 0	.11 .38 .21	13 Piscium
6052	-77 56 15.52	86.8	+19.833+.075	-.35	-.005 0	.11 .73 .20	83 G Octantis
6053	+43 16 14.76	65.6	+19.843+.052	-.14	+.001 0	.13 .61 .30	$\Sigma$ 3024. 9 <sup>m</sup> 55" 309°
6054	-38 22 16.78	81.1	+19.858+.058	-.19	+.011 0	.08 .43 .15	
6055	-74 17 18.38	88.1	+19.823+.068	-.29	-.025 0	.12 .67 .19	
6056	+86 45 20.98	83.3	+19.868-.009		+.018+ 2	.04 .21 .07	39 H Cephei
6057	-21 28 1.81	73.4	+19.869+.055	-.18	+.017 0	.09 .35 .16	101 Aquarii ( <i>b</i> <sup>3</sup> or <i>b</i> <sup>4</sup> )
6058	+21 56 47.88	60.5	+19.822+.052	-.15	-.035 0	.08 .35 .19	71 Pegasi
6059	+30 46 23.92	78.1	+19.852+.050	-.15	-.012 0	.06 .33 .12	72 Pegasi *
6060	- 1 47 59.45	74.2	+19.855+.052	-.17	-.009 0	.08 .32 .14	14 Piscium
6061	+32 56 38.58	57.1	+19.901+.048	-.15	+.029 0	.15 .57 .34	73 Pegasi
6062	-43 10 5.19	75.8	+19.863+.054	-.20	-.009 0	.09 .44 .17	
6063	+39 41 6.14	61.8	+19.832+.048	-.14	-.040 0	.10 .34 .19	15 Andromedæ
6064	+ 0 45 38.61	74.6	+19.858+.049	-.17	-.022 0	.11 .32 .16	15 Piscium
6065	- 8 1 4.68	82.1	+19.900+.050	-.17	+.020 0	.07 .45 .15	
6066	-27 25 46.48	84.8	+19.895+.050	-.18	+.009 0	.11 .64 .20	20 G Sculptoris
6067	+ 1 32 50.00	72.7	+19.948+.047	-.17	+.058 0	.07 .28 .13	16 Piscium
6068	-46 2 44.81	84.3	+19.878+.048	-.20	-.024 0	.11 .65 .20	11 G Phœnicis
6069	-13 36 52.56	67.2	+19.926+.046	-.17	+.024 0	.08 .40 .19	W. H. 11 <sup>m</sup> 33" 93°
6070	+16 16 19.00	55.8	+19.902+.044	-.16	-.002 0	.13 .54 .32	74 Pegasi
6071	+45 54 58.78	70.1	+19.483+.042	-.14	-.421 0	.04 .16 .07	
6072	+17 50 47.33	68.7	+19.925+.044	-.16	+.018 0	.10 .42 .20	75 Pegasi
6073	+42 42 51.74	75.2	+19.907+.041	-.14	-.003 0	.04 .19 .08	
6074	-47 11 34.54	72.6	+19.946+.045	-.20	+.027 0	.11 .49 .21	12 G Phœnicis ( $\theta$ ) *
6075	+49 55 4.02	72.1	+19.912+.039	-.14	-.009 0	.09 .27 .14	18 Andromedæ
6076	-14 46 30.24	68.7	+19.876+.042	-.17	-.048 0	.10 .35 .18	102 Aquarii $\omega^1$
6077	+ 5 5 3.09	68.8	+19.487+.041	-.17	-.439 0	.03 .15 .07	
6078	+77 4 27.30	66.3	+20.088+.029	-.09	+.158 0	.02 .11 .05	
6079	-32 37 33.34	82.8	+19.893+.041	-.18	-.038 0	.10 .59 .19	
6080	+43 46 48.45	70.6	+19.908+.037	-.15	-.024 0	.05 .22 .10	
6081	-12 14 7.27	71.4	+19.939+.039	-.17	+.002 0	.07 .45 .19	
6082	-18 34 47.18	75.0	+19.871+.038	-.17	-.069 0	.09 .35 .15	103 Aquarii <i>A</i> <sup>1</sup>
6083	-18 22 16.43	69.0	+19.949+.038	-.17	+.007 0	.10 .37 .18	104 Aquarii <i>A</i> <sup>2</sup>
6084	+ 1 13 46.87	66.2	+19.801+.036	-.17	-.144 0	.06 .23 .12	
6085	-16 0 8.12	90.2	+19.940+.036	-.17	-.008 0	.13 .73 .19	Edin <sub>3</sub> 3532
6086	+44 26 14.92	61.3	+19.930+.034	-.15	-.019 0	.14 .52 .29	
6087	-15 5 52.28	81.2	+19.891+.036	-.17	-.060 0	.06 .34 .11	105 Aquarii $\omega^{2*}$
6088	+15 46 50.02	73.8	+19.960+.035	-.16	+.008 0	.09 .36 .16	76 Pegasi
6089	+ 9 46 34.24	57.3	+19.964+.034	-.16	+.007 0	.12 .44 .26	77 Pegasi
6090	-79 20 48.70	86.6	+19.916+.043	-.30	-.044 0	.09 .85 .22	85 G Octantis
6091	-15 50 18.94	79.2	+19.954+.034	-.17	-.006 0	.13 .71 .26	Pulk <sub>33</sub> 3485. 6 <sup>m</sup> to 11 <sup>m</sup>
6092	-64 57 37.69	81.2	+19.986+.037	-.21	+.026 0	.13 .71 .24	36 G Tucanæ
6093	-71 2 49.36	86.9	+20.025+.040	-.23	+.065+ 1	.12 .73 .21	35 G Tucanæ
6094	+28 48 27.14	70.6	+19.926+.032	-.16	-.036 0	.08 .32 .15	78 Pegasi *
6095	-18 49 55.18	79.6	+19.963+.033	-.17	.000 0	.07 .33 .12	106 Aquarii <i>i</i> <sup>1</sup>
6096	- 9 1 3.66	85.6	+19.953+.032	-.17	-.014 0	.14 .59 .20	
6097	+55 14 39.95	61.3	+19.957+.029	-.14	-.013 0	.14 .43 .25	
6098	-40 44 13.67	80.2	+19.935+.030	-.18	-.041 0	.12 .60 .22	17 G Phœnicis
6099	-19 14 3.13	65.3	+20.012+.030	-.17	+.035 0	.12 .39 .21	107 Aquarii ( <i>i</i> <sup>2</sup> ) *
6100	- 0 17 30.26	65.3	+19.942+.029	-.17	-.035 0	.13 .46 .24	$\Sigma$ 3036. 11 <sup>m</sup> 2" 5 230°



No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup>	$\mu$ and 100 $\Delta \mu$	Prob. Errors.			
			M	h	m					s	a Ep.	100 $\mu$	a 10
6101	$\psi$ Andromedæ	5.1	23	41	4.608	69.1	+2.9599+.0293	+ .024	+ .0012	0	.08	.26	.13
6102	Br 3162	5.6		41	16.863	59.8	+3.0634+.0023	+ .010	— .0034	0	.09	.33	.19
6103	$\sigma$ Phœnicis	5.4		41	57.594	83.2	+3.1989— .0387	+ .034	— .0022	0	.14	.82	.26
6104	Pi 185	6.0		42	6.921	71.3	+3.0912— .0058	+ .010	— .0042	0	.09	.57	.24
6105	Lal 46607	5.7		42	8.491	91.8	+2.9145+.0419	+ .040	+ .0017	0	.10	.78	.17
6106	$\tau$ Cassiopeiaæ	5.0		42	9.928	60.8	+2.9139+.0438	+ .042	+ .0084+	1	.09	.32	.18
6107	Br 3165	5.8		42	48.097	67.2	+3.0844— .0008	+ .010	+ .0063	0	.06	.26	.13
6108	Br 3166	5.1		43	7.546	78.7	+2.8398+.0613	+ .079	+ .0019	0	.05	.30	.11
6109	Pi 190	6.6		43	24.145	74.9	+3.0840— .0027	+ .010	— .0001	0	.10	.44	.18
6110	$\delta$ Sculptoris	4.7		43	43.099	75.6	+3.1322— .0160	+ .014	+ .0080	0	.04	.28	.10
6111	Br 3169	5.7		43	57.734	69.2	+2.8978+.0500	+ .053	— .0013	0	.10	.38	.18
6112	Br 3170	6.7		44	16.976	73.0	+2.9303+.0450	+ .044	+ .0069+	1	.12	.45	.21
6113	Br 3167	6.1		44	20.226	71.0	+3.0711+.0012	+ .010	— .0004	0	.07	.30	.14
6114	Br 3171	6.2		44	35.647	76.1	+3.0294+.0166	+ .014	+ .0054	0	.08	.39	.16
6115	Pi 202	8.1		44	59.595	78.8	+2.9078+.0504	+ .053	— .0024	0	.16	.63	.26
6116	Pi 200	6.3		45	5.100	80.4	+3.0971— .0046	+ .010	+ .0086	0	.07	.52	.17
6117	Pi 204	6.8		45	22.431	71.2	+2.9797+.0357	+ .030	+ .0129+	2	.10	.57	.24
6118	Pi 203	6.0		45	23.791	73.6	+3.0965— .0071	+ .011	+ .0014	0	.12	.57	.24
6119	Br 3172	5.4		46	11.495	81.1	+3.1018— .0097	+ .012	+ .0010	0	.09	.42	.15
6120	$\gamma^1$ Octantis	5.2		46	14.584	71.6	+3.6613— .3156	+1.200	— .0262+	20	.06	.34	.14
6121	Br 3173	6.3		46	14.980	60.1	+3.0583+.0056	+ .010	— .0017	0	.15	.46	.28
6122	L 9620	6.9		46	26.947	88.6	+3.1333— .0208	+ .017	+ .0052	0	.13	.98	.24
6123	Br 3174	6.0		46	50.669	65.0	+3.0702+.0024	+ .010	+ .0010	0	.09	.42	.21
6124	Br 3181	6.8		47	9.263	72.8	+2.8255+.1102	+ .230	+ .0786+	34	.08	.48	.20
6125	Br 3175	6.4		47	18.724	64.0	+3.0402+.0124	+ .012	— .0036	0	.11	.51	.26
6126	Pi 210	6.3		47	21.784	69.4	+3.0854— .0068	+ .011	— .0064	0	.15	.63	.30
6127	$\phi$ Pegasi	5.5		47	23.962	87.0	+3.0466+.0110	+ .011	— .0011	0	.04	.36	.09
6128	Br 3177	5.5		47	31.030	82.6	+3.0568+.0066	+ .010	— .0022	0	.12	.40	.16
6129	Pi 218	6.7		47	31.863	83.4	+2.8859+.0989	+ .175	+ .0845+	30	.08	.51	.16
6130	Br 3178	7.0		47	35.227	87.4	+3.0430+.0125	+ .012	— .0013	0	.13	.46	.17
6131	Paris 34389	6.0		47	41.800	98.0	+3.0871— .0039	+ .010	+ .0027	0	.12	1.02	.17
6132	Br 3179	6.3		47	47.356	77.9	+3.0817— .0008	+ .010	+ .0047	0	.09	.40	.16
6133	Br 3180	6.5		47	57.423	66.5	+3.0713+.0020	+ .010	+ .0008	0	.11	.40	.21
6134	Pi 222	6.5		48	10.639	86.6	+3.1074— .0129	+ .013	+ .0032	0	.11	.70	.20
6135	$\rho$ Cassiopeiaæ	4.9		49	23.085	81.8	+2.9767+.0443	+ .042	— .0006	0	.05	.30	.10
6136	L 9640	6.2		49	24.040	89.1	+3.1577— .0260	+ .021	+ .0319—	3	.16	.84	.24
6137	Pi 227	6.2		49	39.491	77.2	+3.0690+.0010	+ .010	— .0038	0	.09	.44	.17
6138	Groomb 4163	6.9		49	57.581	74.9	+2.8674+.0907	+ .160	— .0028—	1	.05	.44	.16
6139	Br 3183	6.3		50	0.776	69.8	+3.0664+.0047	+ .010	+ .0007	0	.09	.28	.15
6140	L 9643	6.3		50	6.387	85.0	+3.1095— .0182	+ .016	+ .0004	0	.11	.78	.23
6141	Pi 231	7.0		50	29.911	65.0	+3.0082+.0382	+ .032	+ .0072+	1	.15	.54	.28
6142	Br 3184	6.2		50	32.796	68.2	+2.9873+.0445	+ .042	— .0006	0	.14	.63	.30
6143	L 9652	7.7		50	58.188	85.8	+3.0954— .0112	+ .013	+ .0012	0	.13	.92	.26
6144	V Cephei	Var.		51	45.553	78.2	+2.7297+.1810	+ .669	+ .0291+	22	.07	.32	.12
6145	Groomb 4172	6.3		51	59.104	67.6	+3.0298+.0276	+ .022	— .0003	0	.16	.70	.34
6146	$\gamma^2$ Octantis	5.9		52	3.992	70.8	+3.4164— .2848	+1.112	— .0184+	14	.06	.38	.16
6147	L 9658	6.0		52	5.141	83.2	+3.1743— .0625	+ .072	+ .0094—	2	.16	.84	.28
6148	Br 3185	5.6		52	5.969	68.5	+3.0049+.0424	+ .038	— .0013	0	.08	.40	.19
6149	$\eta$ Tucanæ	5.2		52	20.276	80.8	+3.1817— .0667	+ .080	+ .0142—	3	.15	.68	.25
6150	$\psi$ Pegasi	4.8	23	52	39.703	72.6	+3.0497+.0149	+ .013	— .0031	0	.09	.36	.16



No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. 5 Ep. 100 $\mu'$ 5 10			Remarks.	
	" ' "		" "	"	"	"	"	"		
6101	+45 51 54.20	62.7	+19.971+.027	-.15	-.018	0	.08	.24	.14	19 Piscium
6102	+ 2 55 54.90	56.9	+19.960+.028	-.17	-.020	0	.08	.30	.18	
6103	-50 46 53.31	83.2	+19.973+.028	-.19	-.012	0	.11	.71	.22	
6104	-12 27 50.81	73.8	+19.902+.027	-.17	-.084	0	.08	.50	.20	
6105	+56 53 45.22	95.3	+19.971+.025	-.14	-.015	0	.09	.75	.14	
6106	+58 5 41.46	58.1	+20.042+.025	-.14	+.056	0	.08	.30	.17	20 Piscium
6107	- 3 19 3.30	65.6	+19.996+.025	-.17	+.006	0	.06	.26	.13	
6108	+67 15 4.33	73.3	+19.994+.022	-.14	+.002	0	.04	.22	.09	41 H Cephei
6109	- 6 56 9.00	76.8	+19.968+.024	-.17	-.026	0	.09	.41	.16	
6110	-28 40 59.86	74.1	+19.895+.024	-.18	-.101	0	.05	.32	.13	
6111	+61 39 31.06	59.7	+19.994+.021	-.14	-.004	0	.09	.28	.16	6 Cassiopeiæ *
6112	+58 24 26.87	73.3	+19.981+.021	-.14	-.019	0	.12	.34	.17	
6113	+ 0 31 15.20	72.4	+19.974+.022	-.17	-.026	0	.06	.28	.12	21 Piscium
6114	+28 17 8.25	73.8	+20.021+.021	-.16	+.019	0	.08	.34	.15	
6115	+61 39 29.90	63.9	+20.005+.019	-.14	+.001	0	.15	.50	.28	79 Pegasi
6116	-10 31 56.28	76.9	+20.100+.021	-.17	+.096	0	.07	.50	.18	
6117	+51 3 57.82	67.6	+19.988+.019	-.15	-.018	0	.12	.49	.24	108 Aquarii (2)
6118	-14 57 25.36	78.2	+19.980+.020	-.17	-.026	0	.12	.56	.22	
6119	-19 27 54.87	79.8	+20.018+.019	-.17	+.008	0	.09	.40	.15	
6120	-82 34 28.48	72.4	+20.003+.023	-.29	-.008	0	.05	.33	.14	
6121	+ 8 45 32.21	61.1	+19.953+.018	-.16	-.058	0	.12	.43	.24	
6122	-35 14 49.70	82.6	+19.987+.018	-.18	-.025	0	.13	1.02	.31	80 Pegasi
6123	+ 2 22 27.98	65.3	+20.001+.017	-.17	-.013	0	.09	.40	.20	
6124	+77 2 44.85	71.7	+19.928+.015	-.12	-.087	0	.08	.33	.15	30 G Sculptoris
6125	+21 6 53.07	61.9	+19.994+.016	-.16	-.022	0	.11	.40	.22	
6126	-14 48 26.78	70.5	+20.023+.016	-.17	+.007	0	.13	.54	.25	22 Piscium
6127	+18 33 53.49	83.4	+19.973+.016	-.16	-.044	0	.04	.30	.09	
6128	+10 23 27.28	77.0	+20.020+.016	-.16	+.003	0	.12	.35	.17	82 Pegasi
6129	+74 59 13.17	80.1	+20.069+.015	-.13	+.052	0	.06	.36	.13	
6130	+21 11 12.89	83.0	+19.992+.016	-.16	-.025	0	.12	.40	.16	$\beta$ 996. 12 <sup>m</sup> 6" 71° 83 Pegasi
6131	- 9 33 8.97	97.0	+20.002+.016	-.17	-.016	0	.12	.96	.17	24 Piscium
6132	- 3 42 38.77	76.0	+19.973+.015	-.17	-.045	0	.08	.34	.14	
6133	+ 1 32 4.33	67.1	+20.013+.015	-.17	-.006	0	.10	.39	.20	25 Piscium
6134	-24 47 7.27	89.6	+20.019+.015	-.18	-.001	0	.10	.71	.18	
6135	+56 56 34.98	73.4	+20.030+.012	-.15	+.005	0	.06	.26	.11	274 G Aquarii
6136	-40 51 27.26	84.5	+20.047+.013	-.18	+.022	0	.14	.64	.22	
6137	- 0 26 48.79	79.3	+20.020+.012	-.17	-.006	0	.09	.40	.15	27 G Phœnicis
6138	+73 51 13.70	70.6	+20.021+.010	-.14	-.007	0	.06	.35	.15	
6139	+ 6 30 53.88	69.0	+20.018+.011	-.17	-.010	0	.09	.29	.15	26 Piscium
6140	-32 28 41.43	81.2	+20.029+.011	-.17	+.001	0	.12	.73	.24	
6141	+52 10 42.51	62.2	+20.057+.010	-.16	+.027	0	.13	.45	.25	35 G Sculptoris
6142	+56 51 20.16	62.9	+20.027+.010	-.15	-.003	0	.12	.43	.24	
6143	-22 32 56.36	86.7	+20.078+.009	-.17	+.047	0	.12	.96	.25	Br 3187. 6 <sup>m</sup> 2 to 7 <sup>m</sup> 1
6144	+82 38 3.54	83.1	+20.043+.006	-.12	+.009	0	.08	.33	.12	
6145	+42 6 5.48	61.4	+20.023+.007	-.16	-.012	0	.15	.60	.33	
6146	-82 43 33.23	71.1	+20.019+.009	-.23	-.016	0	.06	.35	.15	L 9651
6147	- 63 30 49.98	82.4	+20.054+.007	-.19	+.019	0	.13	.75	.24	
6148	+55 8 57.53	61.4	+20.019+.007	-.15	-.016	0	.09	.33	.18	42 G Tucanæ
6149	-64 51 12.00	78.5	+19.968+.008	-.19	-.068	0	.12	.55	.21	
6150	+24 35 7.71	71.3	+20.000+.006	-.17	-.037	0	.07	.32	.14	

No.	Designation.	Mag.	R. A. 1900			Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu$ and 100 $\Delta \mu$	Prob. Errors.		
		M	h	m	s					$\alpha$ Ep.	100 $\mu$	$\alpha$ 10
6151	Pi 242	7.0	23	53	2.984	79.7	+3.0177+.0356	+0.029	-.0065- 1	.11	.48	.18
6152	Br 3188	6.6		53	12.573	72.1	+3.0895-.0074	+0.011	+0.0055 0	.14	.54	.24
6153	Br 3189	5.2		53	33.205	66.1	+3.0712-.0007	+0.010	-.0038 0	.06	.27	.13
6154	$\pi$ Phœnicis	5.2		53	44.900	83.8	+3.1263-.0400	+0.037	+0.0051- 1	.13	.78	.24
6155	$\sigma$ Cassiopeiæ	5.1		53	56.103	73.2	+3.0228+.0431	+0.038	+0.0013 0	.09	.28	.14
6156	$\omega$ Piscium	4.1		54	10.544	74.1	+3.0787+.0048	+0.010	+0.0101 0	.03	.16	.06
6157	L 9675	5.9		54	19.513	82.8	+3.0900-.0159	+0.015	-.0015 0	.13	.80	.25
6158	Dpt 2861 <i>m</i>	6.0		54	23.498	88.5	+3.0455+.0207	+0.016	-.0055 0	.10	.50	.15
6159	Pi 249	7.1		54	32.845	69.2	+3.0782-.0018	+0.010	+0.0023 0	.10	.38	.18
6160	$\epsilon$ Tucanæ	4.6		54	43.246	78.6	+3.1486-.0693	+0.087	+0.0067- 2	.11	.51	.19
6161	Br 3194	7.0		54	46.22	69.1	+2.657+.325		+0.038+54	.08	.32	.15
6162	Br 3192	6.7		55	16.844	63.4	+3.0622+.0163	+0.013	+0.0035 0	.16	.66	.35
6163	$\tau$ Phœnicis	5.8		55	56.410	85.1	+3.0987-.0338	+0.030	-.0012 0	.20	1.06	.33
6164	L 9694	5.6		56	11.753	94.7	+3.0982-.0357	+0.032	-.0014 0	.16	1.10	.24
6165	$\theta$ Octantis	4.9		56	27.500	87.3	+3.1449-.1407	+0.330	-.0215+10	.12	.75	.21
6166	Br 3195	5.9		56	30.701	65.9	+3.0369+.0536	+0.054	+0.0008 0	.09	.39	.19
6167	L 9696	7.1		56	33.528	88.6	+3.0929-.0244	+0.021	+0.0033 0	.14	.90	.24
6168	Groomb 4199	6.4		56	36.860	61.8	+3.0542+.0281	+0.021	-.0005 0	.15	.64	.34
6169	Br 3196	5.2		56	41.942	67.0	+3.0743-.0002	+0.010	+0.0008 0	.07	.28	.14
6170	L 9697	7.3		56	47.809	90.6	+3.0830-.0216	+0.019	-.0038 0	.12	.90	.21
6171	Br 3197	4.6		56	49.878	71.6	+3.0772-.0018	+0.010	+0.0027 0	.05	.26	.11
6172	Br 3198 <i>c.g.</i>	6.0		56	56.705	72.1	+3.1256+.0171	+0.013	+0.0622+ 3			
6173	$\zeta$ Sculptoris	5.1		57	12.396	81.8	+3.0838-.0158	+0.015	+0.0020 0	.10	.64	.21
6174	Br 3200	6.6		57	16.824	57.4	+3.0697+.0061	+0.010	-.0003 0	.14	.58	.34
6175	Br 3201	5.9		57	22.982	77.4	+3.0637+.0058	+0.010	-.0065 0	.10	.34	.15
6176	Br 3202	6.1		57	28.611	74.4	+3.0427+.0661	+0.079	+0.0027+ 1	.10	.42	.18
6177	Radcl 6274	8.0		57	30.984	76.0	+3.0443+.0662	+0.079	+0.0038+ 1	.14	.60	.25
6178	Br 3203	7.5		57	34.525	71.1	+2.9595+.2096	+0.773	-.0066- 5	.09	.34	.16
6179	Br 3204	4.6		58	37.044	74.0	+3.0762-.0079	+0.012	+0.0013 0	.04	.24	.10
6180	Br 3205	6.1		59	4.497	69.2	+3.0614+.0569	+0.060	-.0009 0	.12	.44	.21
6181	Cape 4799	6.0		59	12.363	93.0	+3.0753-.0074	+0.011	+0.0015 0	.12	.69	.17
6182	Br 3206	5.3		59	22.999	68.8	+3.0724-.0040	+0.010	-.0006 0	.12	.45	.22
6183	Groomb 4219	6.3		59	28.282	73.6	+3.0702+.0283	+0.021	+0.0006 0	.16	.68	.30
6184	Groomb 4220	6.0		59	30.169	74.9	+3.0815+.0713	+0.087	+0.0159+ 4	.18	.78	.33
6185	L 9710	5.8		59	37.039	88.8	+3.0857-.0908	+0.149	+0.0065- 2	.14	.93	.24
6186	Br 3207	6.9		59	45.381	64.4	+3.0723+.0496	+0.047	+0.0022 0	.11	.54	.27
6187	Groomb 4222	6.0		59	55.950	66.5	+3.0735+.0552	+0.056	+0.0019 0	.12	.68	.32
6188	Pi 270	6.6		59	56.179	74.7	+3.0748+.0013	+0.010	+0.0025 0	.10	.42	.18

6153  $\beta$  730. 11<sup>m</sup> 2" 270°.6158  $\Sigma$  3050. 6<sup>m</sup>8-6<sup>m</sup>8 2"5 214°, slow binary.

No.	Decl. 1900	Epoch.	An. Var. and Sec. Var.	3 <sup>d</sup> t	$\mu'$ and $100\Delta\mu'$	Prob. Errors. 8 Ep. 100 $\mu'$ 6 10	Remarks.
	" " "		" "	"	"	" " "	
6151	+49 53 2.57	75.6	+20.275+.005	-.16	+.237 0	.10 .37 .16	
6152	-16 24 14.89	69.1	+20.029+.005	-.17	-.009 0	.11 .42 .20	1 Ceti
6153	- 4 6 38.80	63.6	+19.972+.004	-.17	-.067 0	.05 .25 .13	27 Piscium *
6154	-53 18 16.16	81.8	+20.093+.004	-.18	+.054 0	.11 .61 .20	
6155	+55 11 53.81	63.4	+20.035+.003	-.16	-.005 0	.08 .23 .13	$\Sigma$ 3049. 7 <sup>m</sup> 3 3'' 326°
6156	+ 6 18 34.71	73.8	+19.931+.003	-.17	-.109 0	.02 .14 .06	
6157	-30 2 31.10	78.6	+20.038+.003	-.17	-.003 0	.13 .64 .24	38 G Sculptoris
6158	+33 10 11.97	78.1	+19.960+.002	-.16	-.081 0	.09 .31 .13	*
6159	- 6 26 54.24	70.5	+19.987+.002	-.17	-.054 0	.08 .33 .16	
6160	-66 8 0.26	79.8	+20.018+.002	-.18	-.024 0	.10 .49 .18	
6161	+86 8 58.88	75.5	+20.046 .000		+.004 0	.07 .38 .15	
6162	+26 21 46.67	57.1	+20.000+.001	-.17	-.043 0	.15 .56 .33	
6163	-49 21 59.74	81.0	+20.042 .000	-.17	-.002 0	.14 .80 .27	
6164	-50 53 40.62	89.7	+20.063-.001	-.17	+.019 0	.13 .67 .19	34 G Phoenicis
6165	-77 37 3.83	86.8	+19.888-.001	-.19	-.156 0	.10 .64 .18	
6166	+60 39 57.67	64.8	+20.047-.002	-.16	+.003 0	.08 .33 .17	
6167	-40 42 18.78	86.2	+20.021-.002	-.17	-.024 0	.12 .75 .22	35 G Phoenicis
6168	+41 48 36.69	51.0	+20.033-.002	-.17	-.012 0	.12 .54 .34	
6169	- 3 35 3.22	65.6	+20.034-.002	-.17	-.011 0	.06 .23 .12	29 Piscium
6170	-37 47 7.94	83.7	+20.012-.002	-.17	-.033 0	.12 .64 .21	40 G Sculptoris
6171	- 6 34 11.45	67.8	+20.011-.002	-.17	-.034 0	.05 .23 .11	30 Piscium
6172	+26 33 9.74	73.2	+19.059-.002	-.17	-.986 0		85 Pegasi. <i>See Appendix</i>
6173	-30 16 39.77	80.4	+20.043-.003	-.17	-.002 0	.10 .55 .19	
6174	+ 8 24 0.26	57.2	+20.046-.003	-.17	+.001 0	.12 .52 .30	31 Piscium
6175	+ 7 55 47.90	76.4	+20.008-.003	-.17	-.038 0	.10 .31 .14	32 Piscium ( <i>c c</i> <sup>2</sup> )
6176	+65 32 31.39	71.6	+20.041-.004	-.16	-.005 0	.09 .31 .15	} $\Sigma$ 3053. 15'' 70°
6177	+65 32 36.37	81.6	+20.014-.004	-.16	-.032 0	.13 .75 .25	
6178	+82 24 59.51	64.4	+20.046-.004	-.15	.000 0	.11 .38 .20	
6179	-17 53 33.79	72.0	+20.038-.006	-.17	-.008 0	.05 .25 .11	2 Ceti
6180	+61 43 50.99	49.8	+20.053-.007	-.17	+.006 0	.12 .36 .25	9 Cassiopeiæ
6181	-17 5 3.53	90.1	+19.998-.007	-.17	-.049 0	.13 .75 .20	
6182	-11 3 58.35	72.8	+20.036-.007	-.17	-.011 0	.10 .43 .19	3 Ceti
6183	+41 32 9.85	72.0	+20.024-.008	-.17	-.023 0	.13 .53 .24	$\Sigma$ 514. 9 <sup>m</sup> 5 5''5 168°
6184	+66 36 32.57	72.0	+20.083-.008	-.17	+.036 0	.16 .61 .28	
6185	-71 59 35.93	87.5	+20.032-.008	-.17	-.015 0	.12 .75 .21	45 G Tucanæ
6186	+57 58 31.09	64.9	+20.022-.008	-.17	-.025 0	.10 .57 .28	$\Sigma$ 3057. 9 <sup>m</sup> 5 4'' 300°
6187	+60 45 25.99	60.4	+20.059-.008	-.17	+.012 0	.12 .57 .31	
6188	- 1 3 29.99	78.5	+20.000-.008	-.17	-.047 0	.09 .39 .15	





## APPENDIX I.

### EPHEMERIDES OF POLAR STARS.

These ephemerides include in the first section all stars of the Catalogue that are north of  $+83^{\circ}$  of declination, with some others. The interval is five years for the more northerly stars and twenty-five years for the remainder. Usually the first date is 1900 and the last 1925. For  $\alpha$  Ursæ Min. and  $\delta$  Ursæ Min. the ephemerides are given, at five-year intervals, from 1800 to 1925.

The second section includes the southern circumpolar stars in like manner.

The columns following  $\alpha$  and  $\delta$ , respectively, contain successively the Annual Variation, Secular Variation, the proper-motion, and the secular variation of the proper-motion.

For suggestions regarding these ephemerides consult the Introduction, especially pp. xxiv and xxxiii.

No. 185. Br 74 5<sup>m</sup>7

	$\alpha$	A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu$
	h m s	s	s	s	s	° ' "	"	"	"	"
1900	0 45 29.70	+ 5.302	+ .602	+ .031	+ .002	+83 9 52.39	+19.643	— .162	— .010	— .001
1925	47 44.17	+ 5.457	+ .638	+ .032	+ .002	18 2.95	+19.601	— .174	— .010	— .001

No. 218. Br 92 4<sup>m</sup>6 43 H Cephei

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	0 55 1.57	+ 7.396	+ 1.482	+ .077	+ .010	+85 43 14.50	+19.467	— .267	— .005	— .003
1905	55 38.74	+ 7.471	+ 1.508	+ .077	+ .010	44 51.81	+19.453	— .273	— .005	— .003
1910	56 16.28	+ 7.547	+ 1.537	+ .078	+ .010	46 29.04	+19.440	— .279	— .005	— .003
1915	56 54.22	+ 7.625	+ 1.565	+ .078	+ .010	48 6.19	+19.426	— .285	— .005	— .003
1920	57 32.54	+ 7.704	+ 1.595	+ .079	+ .010	49 43.29	+19.411	— .290	— .006	— .003
1925	58 11.26	+ 7.785	+ 1.625	+ .079	+ .010	51 20.31	+19.396	— .296	— .006	— .003

No. 219. Br 65 6<sup>m</sup>8

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	0 55 36.82	+15.416	+ 9.913	+ .180	+ .061	+88 29 15.58	+19.444	— .554	— .016	— .006
1905	56 55.16	+15.924	+10.431	+ .183	+ .063	30 52.73	+19.415	— .585	— .016	— .007
1910	58 16.11	+16.461	+11.018	+ .186	+ .064	32 29.73	+19.385	— .619	— .017	— .007
1915	59 39.82	+17.027	+11.634	+ .189	+ .067	34 6.57	+19.353	— .654	— .017	— .007
1920	1 1 6.43	+17.625	+12.290	+ .193	+ .068	35 43.26	+19.320	— .693	— .017	— .008
1925	2 36.12	+18.257	+13.000	+ .196	+ .071	37 19.76	+19.283	— .734	— .018	— .008

No. 232. Br 95 6<sup>m</sup>6

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	0 59 6.10	+ 8.891	+ 2.337	+ .059	+ .009	+86 36 47.45	+19.367	— .341	— .017	— .002
1905	59 50.85	+ 9.009	+ 2.390	+ .059	+ .008	38 24.25	+19.350	— .349	— .017	— .002
1910	1 0 36.19	+ 9.130	+ 2.446	+ .060	+ .008	40 0.94	+19.332	— .359	— .017	— .002
1915	1 22.14	+ 9.254	+ 2.503	+ .060	+ .008	41 37.55	+19.314	— .368	— .017	— .002
1920	2 8.73	+ 9.380	+ 2.561	+ .061	+ .008	43 14.08	+19.296	— .377	— .017	— .002
1925	2 55.96	+ 9.510	+ 2.622	+ .061	+ .007	44 50.51	+19.277	— .387	— .017	— .002

No. 325. Polaris 19  $\Sigma$  93 9<sup>m</sup>5 18" 215°

	h m s	s	s	s	s	° ' "	"	"	"	"
1800	0 52 25.49	+13.033	+ 7.090	+ .095	+ .030	+88 14 24.53	+19.539	— .442	+ .006	— .003
1805	53 31.55	+13.396	+ 7.419	+ .097	+ .031	16 2.17	+19.516	— .464	+ .006	— .003
1810	54 39.47	+13.775	+ 7.769	+ .098	+ .032	17 39.69	+19.492	— .486	+ .006	— .003
1815	55 49.33	+14.173	+ 8.140	+ .100	+ .033	19 17.09	+19.467	— .510	+ .005	— .004
1820	57 1.23	+14.590	+ 8.535	+ .102	+ .034	20 54.36	+19.441	— .536	+ .005	— .004
1825	58 15.26	+15.027	+ 8.954	+ .103	+ .035	22 31.51	+19.414	— .563	+ .005	— .004
1830	59 31.53	+15.486	+ 9.401	+ .105	+ .036	24 8.50	+19.385	— .592	+ .005	— .004
1835	1 0 50.16	+15.967	+ 9.876	+ .107	+ .038	25 45.35	+19.354	— .623	+ .004	— .004
1840	2 11.25	+16.474	+10.384	+ .109	+ .039	27 22.05	+19.322	— .656	+ .004	— .004
1845	3 34.94	+17.006	+10.925	+ .111	+ .040	28 58.57	+19.289	— .692	+ .004	— .004
1850	5 1.36	+17.567	+11.502	+ .113	+ .042	30 34.92	+19.253	— .730	+ .004	— .005
1855	6 30.66	+18.157	+12.120	+ .115	+ .043	32 11.09	+19.216	— .771	+ .004	— .005
1860	8 2.99	+18.780	+12.781	+ .117	+ .044	33 47.08	+19.176	— .814	+ .004	— .005
1865	9 38.51	+19.436	+13.488	+ .119	+ .046	35 22.86	+19.134	— .861	+ .003	— .005
1870	11 17.41	+20.129	+14.246	+ .122	+ .048	36 58.42	+19.090	— .912	+ .003	— .005
1875	12 59.87	+20.862	+15.059	+ .124	+ .049	38 33.76	+19.043	— .966	+ .003	— .006
1880	14 46.09	+21.636	+15.931	+ .127	+ .051	40 8.85	+18.993	— 1.025	+ .002	— .006
1885	16 36.30	+22.455	+16.869	+ .129	+ .053	41 43.69	+18.941	— 1.088	+ .002	— .006
1890	18 30.73	+23.324	+17.877	+ .132	+ .055	43 18.25	+18.884	— 1.157	+ .002	— .007
1895	20 29.63	+24.245	+18.962	+ .135	+ .057	44 52.52	+18.825	— 1.231	+ .001	— .007
1900	22 33.27	+25.222	+20.131	+ .138	+ .059	46 26.49	+18.761	— 1.311	+ .001	— .007
1905	24 41.95	+26.259	+21.390	+ .141	+ .062	48 0.13	+18.694	— 1.399	+ .001	— .007
1910	26 55.97	+27.363	+22.749	+ .144	+ .064	49 33.42	+18.621	— 1.494	.000	— .008
1915	29 15.69	+28.537	+24.217	+ .147	+ .066	51 6.33	+18.544	— 1.596	.000	— .008
1920	31 41.47	+29.787	+25.803	+ .151	+ .068	52 38.85	+18.461	— 1.708	— .001	— .009
1925	34 13.70	+31.119	+27.522	+ .154	+ .071	54 10.94	+18.373	— 1.830	— .001	— .009

No. 726. Br 402 5<sup>m</sup>9

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	3 8 34.80	+13.406	+ 1.637	+ .051	— .004	+84 33 26.56	+13.503	— 1.444	— .132	— .006
1925	14 15.11	+13.819	+ 1.676	+ .050	— .004	38 59.54	+13.135	— 1.521	— .133	— .005



## EPHEMERIDES OF POLAR STARS. NORTH.

253

No. 830. Groomb 642 6<sup>m</sup>0

	$\alpha$	A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	h m s	s	s	s	s	° ' "	"	"	"	"
1900	3 33 55.08	+19.993	+ 3.315	+ .164	+ .006	+86 19 57.09	+11.864	-2.367	-.066	-.019
1905	35 35.46	+20.159	+ 3.326	+ .164	+ .006	20 56.11	+11.745	-2.398	-.067	-.019
1910	37 16.67	+20.325	+ 3.336	+ .165	+ .006	21 54.54	+11.624	-2.432	-.068	-.019
1915	38 58.71	+20.492	+ 3.345	+ .165	+ .005	22 52.35	+11.502	-2.464	-.069	-.020
1920	40 41.59	+20.660	+ 3.353	+ .165	+ .005	23 49.55	+11.378	-2.498	-.070	-.020
1925	42 25.31	+20.828	+ 3.359	+ .165	+ .005	24 46.12	+11.252	-2.531	-.071	-.020

No. 957. Groomb 766 5<sup>m</sup>6

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	4 4 59.40	+13.459	+ .993	-.001	+ .001	+83 33 52.36	+ 9.657	-1.725	+ .014	.000
1925	10 38.96	+13.705	+ .977	-.001	+ .001	37 48.34	+ 9.219	-1.779	+ .014	.000

No. 958. Groomb 750 6<sup>m</sup>8

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	4 5 5.70	+17.316	+ 1.797	+ .015	+ .004	+85 17 28.72	+ 9.668	-2.220	+ .033	-.002
1905	6 32.50	+17.406	+ 1.791	+ .015	+ .004	18 16.78	+ 9.557	-2.239	+ .033	-.002
1910	7 59.75	+17.495	+ 1.785	+ .015	+ .004	19 4.28	+ 9.444	-2.258	+ .033	-.002
1915	9 27.45	+17.584	+ 1.778	+ .016	+ .004	19 51.23	+ 9.331	-2.277	+ .033	-.002
1920	10 55.60	+17.673	+ 1.771	+ .016	+ .004	20 37.59	+ 9.217	-2.296	+ .033	-.002
1925	12 24.18	+17.761	+ 1.763	+ .016	+ .004	21 23.38	+ 9.102	-2.315	+ .033	-.002

No. 968. Groomb 774 5<sup>m</sup>9

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	4 7 59.23	+12.794	+ .861	-.030	+ .003	+83 5 59.96	+ 9.521	-1.647	+ .109	+ .004
1925	13 21.74	+13.007	+ .846	-.029	+ .003	9 52.79	+ 9.104	-1.694	+ .110	+ .004

No. 1191. Radcl 1311 6<sup>m</sup>8

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	4 56 17.83	+20.727	+ 1.386	+ .030	-.007	+85 49 46.36	+ 5.434	-2.913	-.067	-.004
1905	58 1.63	+20.796	+ 1.356	+ .030	-.007	50 13.16	+ 5.288	-2.928	-.067	-.004
1910	59 45.78	+20.863	+ 1.325	+ .029	-.007	50 39.23	+ 5.141	-2.944	-.067	-.004
1915	5 1 30.26	+20.928	+ 1.293	+ .029	-.007	51 4.58	+ 4.993	-2.958	-.068	-.004
1920	3 15.07	+20.992	+ 1.261	+ .029	-.007	51 29.17	+ 4.845	-2.974	-.068	-.004
1925	5 0.18	+21.054	+ 1.228	+ .028	-.007	51 53.02	+ 4.696	-2.988	-.068	-.004

No. 1360. Groomb 944 6<sup>m</sup>5

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	5 29 54.49	+18.694	+ .512	+ .016	+ .001	+85 8 49.75	+ 2.628	-2.706	+ .004	-.002
1905	31 28.02	+18.719	+ .486	+ .016	+ .001	9 2.55	+ 2.493	-2.711	+ .004	-.002
1910	33 1.68	+18.743	+ .461	+ .016	+ .001	9 14.68	+ 2.358	-2.717	+ .004	-.002
1915	34 35.45	+18.765	+ .434	+ .016	+ .000	9 26.13	+ 2.222	-2.722	+ .004	-.002
1920	36 9.33	+18.786	+ .407	+ .016	+ .000	9 36.90	+ 2.086	-2.728	+ .004	-.002
1925	37 43.31	+18.806	+ .383	+ .016	+ .000	9 46.98	+ 1.949	-2.732	+ .004	-.002

No. 1557. Groomb 1004 6<sup>m</sup>9

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	6 8 2.87	+26.698	-.351	+ .030	-.020	+86 45 36.42	-.800	-3.894	-.097	-.004
1905	10 16.31	+26.678	-.434	+ .029	-.020	45 31.93	-.995	-3.890	-.097	-.004
1910	12 29.64	+26.654	-.517	+ .028	-.020	45 26.47	-1.189	-3.884	-.097	-.004
1915	14 42.84	+26.626	-.600	+ .027	-.020	45 20.03	-1.384	-3.877	-.098	-.004
1920	16 55.89	+26.595	-.682	+ .026	-.020	45 12.63	-1.578	-3.869	-.098	-.004
1925	19 8.77	+26.558	-.764	+ .025	-.020	45 4.27	-1.771	-3.861	-.098	-.004

No. 1801. 51 H Cephei 5<sup>m</sup>4 Groomb 1141

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	6 53 44.29	+29.657	-2.634	-.047	-.008	+87 12 20.38	-4.696	-4.197	-.038	+ .007
1905	56 12.24	+29.523	-2.731	-.047	-.008	11 56.38	-4.905	-4.167	-.038	+ .007
1910	58 39.51	+29.384	-2.826	-.048	-.007	11 31.34	-5.112	-4.136	-.037	+ .007
1915	7 1 6.08	+29.241	-2.917	-.048	-.007	11 5.26	-5.318	-4.104	-.037	+ .007
1920	3 31.91	+29.093	-3.005	-.048	-.007	10 38.16	-5.522	-4.071	-.036	+ .007
1925	5 56.99	+28.940	-3.088	-.049	-.006	10 10.04	-5.724	-4.038	-.036	+ .007

## EPHEMERIDES OF POLAR STARS. NORTH.

No. 2103. Groomb 1359 6<sup>m</sup>5

	$\alpha$	A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1900	7 53 1.67	+14.961	-1.260	-.004	-.002	+84 20 49.77	-9.519	-1.916	-.028	+.001
1925	59 11.75	+14.645	-1.276	-.004	-.001	16 45.89	-9.989	-1.848	-.028	+.001

No. 2135. Groomb 1119 7<sup>m</sup>3 4 B Ursæ Min

	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1900	7 58 2.65	+65.491	-32.886	-.035	+.022	+88 55 59.22	-9.868	-8.302	+.007	+.004
1905	8 3 25.99	+63.845	-32.929	-.034	+.022	55 8.86	-10.275	-7.982	+.007	+.004
1910	8 41.09	+62.200	-32.832	-.033	+.021	54 16.50	-10.666	-7.666	+.007	+.004
1915	13 48.00	+60.563	-32.630	-.032	+.020	53 22.22	-11.042	-7.360	+.008	+.004
1920	18 46.75	+58.939	-32.313	-.031	+.020	52 26.10	-11.402	-7.058	+.008	+.004
1925	23 37.41	+57.333	-31.908	-.030	+.019	51 28.23	-11.747	-6.760	+.008	+.004

No. 2261. Groomb 1418 7<sup>m</sup>7

	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1900	8 25 20.80	+16.398	-2.155	-.079	-.001	+85 24 29.56	-11.963	-1.911	-.085	+.009
1905	26 42.52	+16.290	-2.149	-.079	-.001	23 29.50	-12.059	-1.891	-.085	+.009
1910	28 3.70	+16.183	-2.143	-.079	-.002	22 28.97	-12.153	-1.869	-.084	+.009
1915	29 24.35	+16.076	-2.137	-.079	-.002	21 27.98	-12.246	-1.848	-.084	+.009
1920	30 44.47	+15.970	-2.130	-.079	-.002	20 26.52	-12.337	-1.828	-.083	+.009
1925	32 4.05	+15.863	-2.122	-.079	-.002	19 24.62	-12.428	-1.808	-.083	+.009

No. 2415. Radcl 2218 6<sup>m</sup>5

	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1900	8 54 32.25	+13.283	-1.669	+.013	+.000	+84 34 58.63	-13.815	-1.397	+.019	-.001
1925	59 59.22	+12.874	-1.611	+.013	+.000	29 8.99	-14.154	-1.322	+.019	-.001

No. 2745. Br 1399 5<sup>m</sup>6 29 H Camelopardi

	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1900	10 15 9.27	+9.419	-1.508	-.090	+.007	+84 45 37.18	-18.026	-.593	-.041	+.006
1925	19 0.16	+9.054	-1.415	-.088	+.007	38 4.72	-18.170	-.550	-.040	+.005

No. 2762. Pi 22 5<sup>m</sup>3 30 H Camelopardi

	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1900	10 18 54.87	+7.720	-.898	-.045	+.004	+83 4 2.98	-18.104	-.470	+.024	+.003
1925	22 5.11	+7.501	-.856	-.044	+.004	+82 56 28.93	-18.218	-.443	+.025	+.003

No. 2953. Radcl 2612 7<sup>m</sup>5

	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1900	11 2 29.98	+8.014	-1.832	-.031	+.004	+86 10 57.97	-19.421	-.281	-.002	+.001
1905	3 9.82	+7.924	-1.794	-.031	+.004	9 20.83	-19.435	-.275	-.002	+.001
1910	3 49.22	+7.835	-1.758	-.031	+.004	7 43.02	-19.449	-.268	-.002	+.001
1915	4 28.17	+7.748	-1.723	-.030	+.004	6 6.34	-19.462	-.262	-.002	+.001
1920	5 6.70	+7.662	-1.688	-.030	+.004	4 29.00	-19.475	-.256	-.002	+.001
1925	5 44.80	+7.579	-1.656	-.030	+.004	2 51.60	-19.488	-.250	-.002	+.001

No. 3154. Groomb 1850 6<sup>m</sup>5

	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$ $'$ $''$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1900	11 59 42.78	+3.038	-.431	-.059	+.009	+86 8 28.70	-19.959	+.008	+.088	.000
1905	59 57.92	+3.017	-.422	-.059	+.008	6 48.90	-19.958	+.008	+.088	.000
1910	0 12.95	+2.996	-.413	-.058	+.008	5 9.12	-19.958	+.009	+.088	.000
1915	0 27.87	+2.976	-.404	-.058	+.008	3 29.33	-19.958	+.009	+.088	.000
1920	0 42.70	+2.956	-.396	-.057	+.008	1 49.54	-19.957	+.010	+.088	.000
1925	0 57.43	+2.936	-.387	-.057	+.008	0 9.76	-19.956	+.010	+.088	.000

No. 3204. Br 1656 6<sup>m</sup><sub>5</sub>

	$\alpha$	A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	h m s	s	s	s	s	° ' "	"	"	"	"
1900	12 13 55.74	+ 1.794	— .092	+ .266	— .049	+86 59 29.91	—20.016	+ .027	— .006	+ .002
1905	14 4.70	+ 1.789	— .089	+ .264	— .048	57 49.84	—20.015	+ .027	— .006	+ .002
1910	14 13.63	+ 1.785	— .087	+ .261	— .047	56 9.77	—20.013	+ .027	— .006	+ .002
1915	14 22.55	+ 1.780	— .084	+ .259	— .046	54 29.70	—20.012	+ .027	— .006	+ .002
1920	14 31.44	+ 1.776	— .082	+ .256	— .046	52 49.65	—20.011	+ .027	— .006	+ .002
1925	14 40.31	+ 1.772	— .079	+ .254	— .045	51 9.60	—20.010	+ .027	— .006	+ .002

No. 3208. Br 1672 6<sup>m</sup><sub>5</sub> 6 B Ursæ Min

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	12 14 23.17	+ .248	+ .818	— .074	+ .021	+88 15 15.20	—19.949	+ .010	+ .058	— .001
1905	14 24.51	+ .288	+ .782	— .073	+ .020	13 35.45	—19.949	+ .010	+ .058	— .001
1910	14 26.05	+ .326	+ .746	— .072	+ .020	11 55.71	—19.948	+ .011	+ .058	— .001
1915	14 27.76	+ .362	+ .713	— .071	+ .019	10 15.97	—19.948	+ .011	+ .058	— .001
1920	14 29.66	+ .397	+ .682	— .070	+ .018	8 36.23	—19.947	+ .012	+ .058	— .001
1925	14 31.73	+ .430	+ .652	— .069	+ .018	6 56.50	—19.946	+ .012	+ .058	— .001

No. 3354. 32<sup>1</sup> H Camelopardi 6<sup>m</sup><sub>1</sub> Br 1730

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	12 48 15.64	+ .416	+ .207	— .015	+ .001	+83 57 41.53	—19.590	+ .020	+ .014	.000
1925	48 26.68	+ .466	+ .193	— .015	+ .001	49 31.85	—19.585	+ .022	+ .014	— .000

No. 3356. 32<sup>2</sup> H Camelopardi 5<sup>m</sup><sub>5</sub> Br 1731

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	12 48 23.16	+ .409	+ .208	— .018	+ .002	+83 57 23.40	—19.587	+ .020	+ .015	.000
1925	48 34.02	+ .459	+ .194	— .018	+ .001	49 13.80	—19.581	+ .022	+ .015	— .000

No. 3407. Groomb 2006 7<sup>m</sup><sub>7</sub>

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	13 4 30.28	— 8.665	+ 6.022	— .013	+ .002	+88 11 11.52	—19.246	— .343	+ .012	.000
1905	3 47.70	— 8.370	+ 5.769	— .013	+ .002	9 35.25	—19.263	— .328	+ .012	.000
1910	3 6.56	— 8.088	+ 5.528	— .013	+ .002	7 58.90	—19.279	— .313	+ .012	.000
1915	2 26.80	— 7.817	+ 5.301	— .013	+ .002	6 22.46	—19.294	— .299	+ .012	.000
1920	1 48.37	— 7.557	+ 5.084	— .013	+ .002	4 45.95	—19.309	— .286	+ .012	.000
1925	1 11.21	— 7.308	+ 4.876	— .013	+ .002	3 9.37	—19.323	— .273	+ .012	.000

No. 3470. Groomb 2007 7<sup>m</sup><sub>5</sub>

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	13 18 38.94	— 2.475	+ .895	— .104	+ .011	+85 16 38.46	—18.852	— .119	+ .026	— .005
1905	18 26.68	— 2.430	+ .883	— .104	+ .011	15 4.19	—18.858	— .116	+ .026	— .005
1910	18 14.63	— 2.387	+ .868	— .103	+ .010	13 29.89	—18.863	— .114	+ .026	— .005
1915	18 2.81	— 2.344	+ .853	— .102	+ .010	11 55.55	—18.869	— .111	+ .025	— .005
1920	17 51.19	— 2.302	+ .839	— .102	+ .010	10 21.19	—18.875	— .109	+ .025	— .005
1925	17 39.79	— 2.260	+ .826	— .101	+ .010	8 46.81	—18.880	— .107	+ .025	— .005

No. 3574. Pi 263 6<sup>m</sup><sub>3</sub> Groomb 2063

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	13 45 10.41	— 1.911	+ .519	+ .022	— .001	+83 15 15.34	—18.020	— .114	— .047	+ .001
1925	44 24.23	— 1.784	+ .492	+ .022	— .001	7 44.50	—18.048	— .105	— .047	+ .001

No. 3833. Groomb 2196 5<sup>m</sup><sub>0</sub>

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	14 57 3.15	— 4.351	+ .686	+ .090	+ .002	+82 55 21.55	—14.599	— .427	— .243	+ .009
1925	55 16.49	— 4.183	+ .662	+ .090	+ .002	49 15.26	—14.704	— .407	— .241	+ .009



No. 3851. Groomb 2213 7<sup>m</sup>2

	$\alpha$			A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	h	m	s	s	s	s	s	"	"	"	"	"
1900	15	1	40.86	- 6.538	+ 1.122	-.010	+.000	+84 20 13.57	-14.059	-.674	+.012	-.001
1925	14	59	0.88	- 6.263	+ 1.078	-.010	+.000	14 20.03	-14.223	-.638	+.012	-.001

No. 3877. Groomb 2283 7<sup>m</sup>3

	h	m	s	s	s	s	s	"	"	"	"	"
1900	15	9	20.50	-20.557	+ 7.003	-.008	-.004	+87 37 3.71	-13.567	-2.199	+.019	-.001
1905		7	38.58	-20.210	+ 6.894	-.008	-.004	35 55.60	-13.675	-2.147	+.019	-.001
1910		5	58.39	-19.868	+ 6.784	-.008	-.004	34 46.96	-13.781	-2.095	+.019	-.001
1915		4	19.89	-19.532	+ 6.675	-.009	-.004	33 37.79	-13.885	-2.047	+.019	-.001
1920		2	43.06	-19.201	+ 6.567	-.009	-.003	32 28.11	-13.986	-1.998	+.019	-.001
1925		1	7.88	-18.875	+ 6.458	-.009	-.003	31 17.94	-14.085	-1.951	+.019	-.001

No. 4065. Groomb 2315 7<sup>m</sup>7

	h	m	s	s	s	s	s	"	"	"	"	"
1900	15	53	46.94	- 6.540	+ .706	+.009	-.000	+83 14 57.82	-10.487	-.807	+.004	+.001
1925		51	5.64	- 6.365	+ .696	+.009	-.001	10 33.16	-10.685	-.779	+.004	+.001

No. 4327.  $\epsilon$  Ursæ Min 4<sup>m</sup>5

	h	m	s	s	s	s	s	"	"	"	"	"
1900	16	56	12.21	- 6.304	+ .315	+.007	-.000	+82 12 7.66	- 5.510	-.880	-.001	+.001
1925		53	35.60	- 6.224	+ .323	+.007	-.000	9 47.19	- 5.728	-.866	-.001	+.001

No. 4591.  $\delta$  Ursæ Min 4<sup>m</sup>3

	h	m	s	s	s	s	s	"	"	"	"	"
1800	18	36	38.30	-18.871	- 1.058	+.029	-.007	+86 33 42.45	+ 3.237	-2.714	+.044	+.004
1805		35	3.81	-18.923	- 1.017	+.028	-.007	33 58.29	+ 3.101	-2.725	+.045	+.004
1810		33	29.07	-18.973	- .976	+.028	-.007	34 13.46	+ 2.964	-2.735	+.045	+.004
1815		31	54.09	-19.020	- .933	+.028	-.007	34 27.93	+ 2.827	-2.744	+.045	+.004
1820		30	18.87	-19.066	- .890	+.027	-.008	34 41.74	+ 2.690	-2.754	+.045	+.004
1825		28	43.43	-19.110	- .847	+.027	-.008	34 54.84	+ 2.552	-2.762	+.045	+.004
1830		27	7.78	-19.151	- .803	+.026	-.008	35 7.26	+ 2.414	-2.770	+.046	+.004
1835		25	31.92	-19.190	- .758	+.026	-.008	35 18.98	+ 2.275	-2.778	+.046	+.004
1840		23	55.88	-19.227	- .713	+.025	-.008	35 30.00	+ 2.136	-2.786	+.046	+.004
1845		22	19.66	-19.261	- .668	+.025	-.008	35 40.33	+ 1.996	-2.792	+.046	+.004
1850		20	43.27	-19.294	- .622	+.025	-.008	35 49.97	+ 1.857	-2.799	+.046	+.004
1855		19	6.73	-19.323	- .575	+.024	-.008	35 58.90	+ 1.717	-2.805	+.046	+.004
1860		17	30.04	-19.351	- .528	+.024	-.008	36 7.13	+ 1.576	-2.810	+.047	+.004
1865		15	53.22	-19.376	- .481	+.024	-.008	36 14.66	+ 1.436	-2.815	+.047	+.003
1870		14	16.29	-19.399	- .434	+.023	-.008	36 21.50	+ 1.295	-2.820	+.047	+.003
1875		12	39.24	-19.419	- .386	+.023	-.009	36 27.61	+ 1.154	-2.824	+.047	+.003
1880		11	2.10	-19.438	- .338	+.022	-.009	36 33.03	+ 1.012	-2.828	+.047	+.003
1885		9	24.87	-19.453	- .290	+.022	-.009	36 37.73	+ .871	-2.831	+.048	+.003
1890		7	47.57	-19.467	- .241	+.022	-.009	36 41.74	+ .729	-2.834	+.048	+.003
1895		6	10.21	-19.477	- .192	+.021	-.009	36 45.02	+ .588	-2.836	+.048	+.003
1900		4	32.80	-19.486	- .144	+.021	-.009	36 47.61	+ .446	-2.837	+.048	+.003
1905		2	55.35	-19.491	- .092	+.021	-.009	36 49.48	+ .304	-2.839	+.048	+.003
1910		1	17.89	-19.495	- .044	+.020	-.009	36 50.64	+ .162	-2.840	+.048	+.003
1915	17	59	40.41	-19.496	+ .005	+.020	-.009	36 51.10	+ .020	-2.840	+.048	+.003
1920		58	2.93	-19.494	+ .053	+.019	-.009	36 50.85	- .122	-2.840	+.049	+.003
1925		56	25.47	-19.491	+ .102	+.019	-.009	36 49.88	- .264	-2.839	+.049	+.003

No. 4605. Br 2417 6<sup>m</sup>0 24 Ursæ Min

	h	m	s	s	s	s	s	"	"	"	"	"
1900	18	7	47.52	-22.296	- .291	+.068	-.001	+86 59 38.66	+ .688	-3.240	+.006	+.010
1905		5	56.00	-22.308	- .219	+.068	-.001	59 41.69	+ .525	-3.242	+.006	+.010
1910		4	4.43	-22.318	- .148	+.068	-.001	59 43.91	+ .363	-3.244	+.007	+.010
1915		2	12.82	-22.323	- .076	+.068	-.002	59 45.32	+ .201	-3.245	+.008	+.010
1920		0	21.20	-22.325	- .004	+.068	-.002	59 45.92	+ .039	-3.245	+.008	+.010
1925	17	58	29.58	-22.324	+ .068	+.068	-.002	59 45.71	- .124	-3.245	+.008	+.010

## EPHEMERIDES OF POLAR STARS. NORTH.

257

No. 4971.  $\lambda$  Ursæ Min 6<sup>m</sup>8 Br 2795

	$\alpha$	A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	h m s	s	s	s	s	° ' "	"	"	"	"
1900	19 22 29.27	-67.822	-26.888	-.103	-.042	+88 59 15.82	+ 7.071	- 9.272	+ .011	-.014
1905	16 46.84	-69.140	-25.816	-.105	-.040	59 50.01	+ 6.601	- 9.538	+ .010	-.015
1910	10 57.98	-70.400	-24.571	-.107	-.038	+89 0 21.81	+ 6.118	- 9.792	+ .010	-.015
1915	5 2.95	-71.594	-23.140	-.109	-.036	0 51.17	+ 5.622	-10.040	+ .009	-.015
1920	18 59 2.16	-72.714	-21.534	-.111	-.033	1 18.01	+ 5.114	-10.271	+ .008	-.016
1925	52 55.99	-73.744	-19.750	-.112	-.030	1 42.30	+ 4.596	-10.487	+ .007	-.016

No. 5140. Groomb 3402 8<sup>m</sup>5

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	19 59 0.77	-53.181	-25.977	+ .356	-.039	+88 49 32.94	+10.041	-6.690	+ .092	+ .045
1905	54 31.62	-54.480	-25.996	+ .354	-.048	50 22.30	+ 9.700	-6.930	+ .095	+ .045
1910	49 55.97	-55.779	-25.928	+ .351	-.059	51 9.92	+ 9.348	-7.174	+ .097	+ .045
1915	45 13.84	-57.072	-25.764	+ .348	-.070	51 55.76	+ 8.983	-7.420	+ .099	+ .045
1920	40 25.27	-58.354	-25.496	+ .344	-.081	52 39.74	+ 8.606	-7.664	+ .102	+ .045
1925	35 30.33	-59.620	-25.118	+ .340	-.093	53 21.80	+ 8.217	-7.908	+ .104	+ .045

No. 5207. Groomb 3212 7<sup>m</sup>1

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	20 13 59.68	- 8.256	- 1.061	-.008	+ .002	+84 22 38.07	+11.022	-1.009	-.042	-.001
1925	10 29.97	- 8.523	- 1.080	-.008	+ .002	27 10.43	+10.765	-1.052	-.042	-.001

No. 5324. Radcl 4976 6<sup>m</sup>4

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	20 39 5.25	- 5.631	- .755	+ .013	+ .002	+83 16 44.22	+12.798	- .635	-.026	+ .002
1925	36 42.09	- 5.823	- .776	+ .013	+ .002	22 2.17	+12.636	- .662	-.026	+ .002

No. 5499. Groomb 3548 7<sup>m</sup>7

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	21 19 35.03	-11.498	- 3.286	+ .022	+ .001	+86 37 24.54	+15.346	-1.085	+ .013	+ .002
1905	18 37.13	-11.663	- 3.337	+ .022	+ .001	38 41.14	+15.292	-1.105	+ .013	+ .002
1910	17 38.40	-11.831	- 3.388	+ .022	+ .001	39 57.45	+15.236	-1.127	+ .013	+ .002
1915	16 38.81	-12.002	- 3.441	+ .022	+ .001	41 13.49	+15.180	-1.149	+ .013	+ .002
1920	15 38.37	-12.175	- 3.493	+ .022	+ .001	42 29.25	+15.122	-1.171	+ .013	+ .002
1925	14 37.06	-12.351	- 3.547	+ .022	+ .001	43 44.70	+15.062	-1.194	+ .014	+ .002

No. 5509. Br 2832 7<sup>m</sup>2

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	21 21 32.97	- 4.805	- 1.880	+ .013	+ .001	+83 50 11.10	+15.432	- .452	-.011	+ .001
1925	19 30.05	- 5.030	- .920	+ .013	+ .001	56 35.47	+15.316	- .478	-.011	+ .001

No. 5784. Br 2993 5<sup>m</sup>4 32 H Cephei

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	22 21 18.14	- 4.136	- 1.308	+ .051	+ .004	+85 36 17.27	+18.265	- .256	+ .049	+ .003
1905	20 57.30	- 4.201	- 1.330	+ .051	+ .004	37 48.57	+18.252	- .261	+ .049	+ .003
1910	20 56.13	- 4.268	- 1.352	+ .051	+ .004	39 19.79	+18.239	- .266	+ .049	+ .003
1915	20 14.61	- 4.337	- 1.375	+ .052	+ .004	40 50.95	+18.225	- .271	+ .049	+ .003
1920	19 52.76	- 4.406	- 1.398	+ .052	+ .004	42 22.05	+18.212	- .276	+ .050	+ .003
1925	19 30.54	- 4.476	- 1.422	+ .052	+ .004	43 53.08	+18.198	- .282	+ .050	+ .003

No. 5787. Br 2997 7<sup>m</sup>0

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	22 21 41.24	- 4.316	- 1.383	+ .038	+ .004	+85 43 8.40	+18.246	- .267	+ .015	+ .002
1905	21 19.49	- 4.385	- 1.407	+ .038	+ .004	44 39.60	+18.232	- .272	+ .015	+ .002
1910	20 57.39	- 4.456	- 1.431	+ .038	+ .004	46 10.72	+18.218	- .278	+ .015	+ .002
1915	20 34.92	- 4.528	- 1.456	+ .039	+ .004	47 41.78	+18.204	- .283	+ .015	+ .002
1920	20 12.18	- 4.602	- 1.482	+ .039	+ .004	49 12.76	+18.190	- .289	+ .016	+ .002
1925	19 48.90	- 4.677	- 1.508	+ .039	+ .004	51 43.68	+18.176	- .294	+ .016	+ .002

## EPHEMERIDES OF POLAR STARS. NORTH.

No. 5927. Br 3058 5<sup>m</sup> 36 H Cephei

	a	A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	h m s	s	s	s	s	° ' "	"	"	"	"
1900	22 55 12.84	— .302	— .317	+ .063	+ .005	+83 48 39.81	+19.281	— .018	+ .030	+ .003
1925	55 4.27	— .384	— .339	+ .064	+ .005	56 41.78	+19.276	— .021	+ .031	+ .003

No. 6056. Br 3147 5<sup>m</sup> 39 H Cephei

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	23 27 48.78	— .133	— .566	+ .095	+ .016	+86 45 20.98	+19.868	— .009	+ .018	+ .002
1905	27 48.04	— .162	— .580	+ .096	+ .016	47 0.32	+19.867	— .010	+ .018	+ .002
1910	27 47.16	— .191	— .596	+ .097	+ .016	48 39.65	+19.866	— .010	+ .018	+ .002
1915	27 46.13	— .221	— .612	+ .097	+ .016	50 18.98	+19.866	— .011	+ .018	+ .002
1920	27 44.94	— .253	— .628	+ .098	+ .017	51 58.31	+19.865	— .012	+ .018	+ .002
1925	27 43.60	— .285	— .645	+ .098	+ .017	53 37.63	+19.864	— .012	+ .018	+ .002

No. 6161. Br 3194 7<sup>m</sup> 0

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	23 54 46.22	+ 2.657	+ .325	+ .038	+ .005	+86 8 58.88	+20.046	+ .000	+ .004	+ .000
1905	54 59.55	+ 2.674	+ .332	+ .038	+ .006	10 39.11	+20.046	+ .000	+ .004	+ .000
1910	55 12.96	+ 2.690	+ .340	+ .039	+ .006	12 19.33	+20.046	— .000	+ .004	+ .000
1915	55 26.46	+ 2.708	+ .348	+ .039	+ .006	13 59.56	+20.046	— .001	+ .004	+ .000
1920	55 40.04	+ 2.725	+ .355	+ .039	+ .006	15 39.79	+20.046	— .001	+ .004	+ .000
1925	55 53.71	+ 2.743	+ .364	+ .039	+ .006	17 20.02	+20.045	— .001	+ .004	+ .000

## EPHEMERIDES OF POLAR STARS. SOUTH.

No. 32 L 23 5<sup>m</sup> 2 G Octantis

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	0 9 31.59	+ 2.351	— .200	— .007	+ .001	—85 33 1.98	+20.089	— .023	+ .059	.000
1905	9 43.32	+ 2.342	— .197	— .007	+ .001	31 21.53	+20.087	— .023	+ .059	.000
1910	9 55.01	+ 2.332	— .193	— .007	+ .001	29 41.11	+20.086	— .023	+ .059	.000
1915	10 6.64	+ 2.322	— .189	— .007	+ .001	28 0.68	+20.085	— .024	+ .059	.000
1920	10 18.23	+ 2.313	— .186	— .007	+ .001	26 20.26	+20.084	— .024	+ .059	.000
1925	10 29.77	+ 2.304	— .182	— .007	+ .001	24 39.84	+20.083	— .024	+ .059	.000

No. 47. 0 Octantis 7<sup>m</sup> 5

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	0 12 29.84	— .768	+ 2.376	+ .019	— .010	—88 55 8.38	+20.022	— .002	+ .005	.000
1905	12 26.29	— .654	+ 2.201	+ .018	— .009	53 28.27	+20.022	— .003	+ .005	.000
1910	12 23.28	— .548	+ 2.040	+ .018	— .009	51 48.16	+20.022	— .004	+ .005	.000
1915	12 20.79	— .450	+ 1.900	+ .018	— .008	50 8.05	+20.021	— .005	+ .005	.000
1920	12 18.78	— .358	+ 1.772	+ .017	— .008	48 27.95	+20.021	— .006	+ .005	.000
1925	12 17.14	— .272	+ 1.651	+ .017	— .007	46 47.84	+20.021	— .006	+ .005	.000

No. 395. L 576 6<sup>m</sup> 1 3 G Octantis

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	1 40 33.84	— 1.830	+ .533	+ .069	— .002	—83 29 2.12	+18.286	+ .101	+ .138	— .004
1925	39 49.73	— 1.701	+ .504	+ .068	— .002	21 24.67	+18.311	+ .093	+ .137	— .004

No. 406. L 634 5<sup>m</sup> 8

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	1 43 8.09	— 3.942	+ 1.172	+ .019	— .001	—85 16 29.20	+18.080	+ .241	+ .029	— .001
1905	42 48.53	— 3.883	+ 1.154	+ .019	— .001	14 58.77	+18.092	+ .237	+ .029	— .001
1910	42 29.26	— 3.826	+ 1.137	+ .019	— .001	13 28.28	+18.104	+ .233	+ .029	— .001
1915	42 10.27	— 3.770	+ 1.120	+ .019	— .001	11 57.73	+18.115	+ .228	+ .029	— .001
1920	41 51.56	— 3.714	+ 1.104	+ .019	— .001	10 27.13	+18.127	+ .224	+ .029	— .001
1925	41 33.13	— 3.659	+ 1.087	+ .019	— .001	8 56.47	+18.138	+ .220	+ .029	— .001

No. 1096. L 1707 7<sup>m</sup> 1 12 G Mensæ

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	4 34 28.77	— 7.246	+ .527	— .011	+ .001	—83 6 55.63	+ 7.317	+ .982	+ .009	+ .002
1925	31 29.27	— 7.114	+ .532	— .011	+ .001	3 49.05	+ 7.561	+ .959	+ .010	+ .002



## EPHEMERIDES OF POLAR STARS. SOUTH.

259

No. 1547. L 2512 7<sup>M</sup>1 6 G Octantis

	$\alpha$	A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	h m s	s	s	s	s	° ' "	"	"	"	"
1900	6 6 9.51	-15.735	-.117	-.026	-.000	-85 55 52.97	-.538	+2.297	+.001	+.004
1905	4 50.82	-15.741	-.090	-.026	-.000	55 55.37	-.423	+2.298	+.001	+.004
1910	3 32.11	-15.745	-.063	-.026	+.000	55 57.20	-.308	+2.299	+.001	+.004
1915	2 13.38	-15.747	-.036	-.026	+.000	55 58.45	-.193	+2.300	+.002	+.004
1920	0 54.62	-15.748	-.009	-.026	+.000	55 59.12	-.078	+2.300	+.002	+.004
1925	5 59 35.89	-15.748	+.019	-.026	+.000	55 59.23	+.037	+2.299	+.002	+.004

No. 1947. L 3274 6<sup>M</sup>7 7 G Octantis

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	7 22 1.53	-19.815	-2.648	+.003	+.002	-86 52 11.36	-7.015	+2.709	+.007	.000
1905	20 22.13	-19.946	-2.621	+.003	+.002	52 46.10	-6.879	+2.734	+.007	.000
1910	18 42.07	-20.077	-2.592	+.003	+.002	53 20.15	-6.742	+2.759	+.007	.000
1915	17 1.36	-20.206	-2.561	+.003	+.002	53 53.53	-6.604	+2.784	+.007	.000
1920	15 20.02	-20.333	-2.529	+.003	+.002	54 26.19	-6.464	+2.809	+.007	.000
1925	13 38.04	-20.458	-2.495	+.003	+.002	54 58.16	-6.323	+2.833	+.007	.000

No. 2102. L 3911 8<sup>M</sup>1 A Octantis

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	7 53 1.56	-44.246	-16.886	-.043	+.000	-88 34 24.83	-9.481	+5.690	+.009	+.006
1905	49 18.22	-45.089	-16.824	-.043	+.001	35 11.52	-9.193	+5.848	+.009	+.006
1910	45 30.69	-45.928	-16.724	-.043	+.002	35 56.75	-8.896	+6.008	+.010	+.006
1915	41 38.97	-46.761	-16.581	-.043	+.002	36 40.47	-8.592	+6.168	+.010	+.006
1920	37 43.10	-47.585	-16.390	-.043	+.003	37 22.66	-8.280	+6.327	+.010	+.006
1925	33 43.14	-48.399	-16.151	-.043	+.003	38 3.26	-7.960	+6.485	+.010	+.006

No. 2486. J Octantis 5<sup>M</sup>5

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	9 11 14.45	-7.860	-1.629	-.101	-.007	-85 15 46.89	-14.820	+.786	+.033	+.010
1905	10 34.95	-7.942	-1.645	-.101	-.007	17 0.89	-14.780	+.796	+.034	+.010
1910	9 55.03	-8.025	-1.663	-.102	-.007	18 14.69	-14.741	+.807	+.034	+.010
1915	9 14.70	-8.108	-1.680	-.102	-.006	19 28.30	-14.699	+.818	+.035	+.010
1920	8 33.94	-8.193	-1.698	-.102	-.006	20 41.69	-14.658	+.829	+.036	+.010
1925	7 52.77	-8.278	-1.715	-.103	-.006	21 54.88	-14.617	+.840	+.036	+.010

No. 2715. L 4342 7<sup>M</sup>6

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	10 8 41.07	-6.964	-2.338	-.048	-.006	-86 25 32.65	-17.726	+.485	+.002	+.003
1905	8 5.96	-7.082	-2.383	-.048	-.007	27 1.22	-17.702	+.495	+.002	+.003
1910	7 30.25	-7.202	-2.430	-.049	-.007	28 29.67	-17.677	+.506	+.002	+.003
1915	6 53.93	-7.325	-2.479	-.049	-.007	29 57.99	-17.651	+.517	+.002	+.003
1920	6 16.99	-7.450	-2.528	-.049	-.007	31 26.18	-17.625	+.528	+.003	+.003
1925	5 39.43	-7.578	-2.578	-.050	-.007	32 54.23	-17.598	+.540	+.003	+.004

No. 2849. L 4510 7<sup>M</sup>1 10 G Octantis

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	10 36 55.16	-3.053	-1.078	-.004	-.001	-85 34 20.94	-18.758	+.165	-.014	.000
1905	36 39.76	-3.107	-1.097	-.004	-.001	35 54.71	-18.750	+.169	-.014	.000
1910	36 24.09	-3.162	-1.116	-.004	-.001	37 28.43	-18.741	+.173	-.014	.000
1915	36 8.14	-3.219	-1.136	-.004	-.001	39 2.12	-18.733	+.176	-.014	.000
1920	35 51.90	-3.276	-1.156	-.004	-.001	40 35.76	-18.723	+.180	-.014	.000
1925	35 35.38	-3.334	-1.176	-.004	-.001	42 9.35	-18.714	+.183	-.014	.000

No. 2944.  $\eta$  Octantis 6<sup>M</sup>4

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	11 0 1.18	-.291	-.330	-.042	-.004	-84 3 21.32	-19.378	+.021	-.014	+.002
1925	10 59 52.86	-.376	-.354	-.043	-.004	11 25.71	-19.373	+.024	-.014	+.002

No. 3144. L 4991 6<sup>m</sup>0 12 G Octantis, h 4490 9<sup>m</sup> 25'' 146°

	$\alpha$			A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$			A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	h	m	s	s	s	s	s	°	'	"	"	"	"	"
1900	11	57	18.87	+ 2.839	+ .296	-.051	-.006	-85	4	29.70	-20.047	+ .004	-.001	+ .000
1905		57	33.10	+ 2.854	+ .301	-.051	-.006		6	9.93	-20.046	+ .004	-.001	+ .000
1910		57	47.42	+ 2.870	+ .306	-.052	-.006		7	50.16	-20.046	+ .004	-.001	+ .000
1915		58	1.80	+ 2.885	+ .311	-.052	-.006		9	30.39	-20.046	+ .005	-.001	+ .000
1920		58	16.27	+ 2.901	+ .317	-.052	-.006		11	10.62	-20.046	+ .005	-.001	-.000
1925		58	30.81	+ 2.917	+ .322	-.052	-.006		12	50.85	-20.045	+ .006	-.001	-.000

No. 3185. Brish 3962 6<sup>m</sup>9 13 G Octantis

	h	m	s	s	s	s	s	°	'	"	"	"	"	"
1900	12	9	31.46	+ 4.486	+ 1.534	-.072	-.019	-87	51	33.64	-20.030	+ .035	.000	.000
1905		9	54.08	+ 4.564	+ 1.596	-.073	-.019		53	13.78	-20.028	+ .037	.000	.000
1910		10	17.11	+ 4.645	+ 1.660	-.074	-.020		54	53.91	-20.026	+ .039	.000	.000
1915		10	40.55	+ 4.730	+ 1.728	-.075	-.020		56	34.04	-20.024	+ .040	.000	-.001
1920		11	4.41	+ 4.818	+ 1.800	-.076	-.021		58	14.16	-20.022	+ .042	.000	-.001
1925		11	28.73	+ 4.910	+ 1.877	-.077	-.021		59	54.26	-20.020	+ .044	-.000	-.001

No. 3225. L 5107 6<sup>m</sup>7 14 G Octantis

	h	m	s	s	s	s	s	°	'	"	"	"	"	"
1900	12	17	37.00	+ 4.388	+ .720	-.016	-.002	-85	35	45.32	-19.994	+ .057	-.006	.000
1905		17	59.04	+ 4.425	+ .734	-.016	-.002		37	25.28	-19.991	+ .059	-.006	.000
1910		18	21.25	+ 4.462	+ .748	-.016	-.002		39	5.22	-19.988	+ .061	-.006	.000
1915		18	43.66	+ 4.500	+ .762	-.016	-.002		40	45.16	-19.985	+ .062	-.006	.000
1920		19	6.25	+ 4.538	+ .777	-.016	-.002		42	25.07	-19.982	+ .063	-.006	.000
1925		19	29.05	+ 4.578	+ .792	-.016	-.002		44	4.97	-19.978	+ .064	-.006	.000

No. 3325. L 5235 7<sup>m</sup>1

	h	m	s	s	s	s	s	°	'	"	"	"	"	"
1900	12	40	59.58	+ 21.172	+ 28.711	-.072	-.045	-89	15	1.08	-19.738	+ .556	-.011	-.002
1905		42	49.16	+ 22.680	+ 32.081	-.074	-.048		16	39.70	-19.709	+ .620	-.011	-.002
1910		44	46.75	+ 24.388	+ 35.908	-.077	-.051		18	18.16	-19.674	+ .698	-.011	-.002
1915		46	53.35	+ 26.292	+ 40.441	-.079	-.054		19	56.45	-19.638	+ .786	-.011	-.003
1920		49	10.08	+ 28.443	+ 45.730	-.082	-.058		21	34.54	-19.598	+ .880	-.012	-.003
1925		51	38.27	+ 30.881	+ 51.976	-.085	-.061		23	12.41	-19.550	+ 1.011	-.012	-.003

No. 3340.  $\epsilon$  Octantis 5<sup>m</sup>5

	h	m	s	s	s	s	s	°	'	"	"	"	"	"
1900	12	44	27.00	+ 5.831	+ .866	+ .044	+ .004	-84	34	48.87	-19.661	+ .173	+ .010	+ .001
1925		46	55.56	+ 6.056	+ .933	+ .045	+ .004		42	59.83	-19.617	+ .190	+ .010	+ .001

No. 3473. L 5452 7<sup>m</sup>4 17 G Octantis

	h	m	s	s	s	s	s	°	'	"	"	"	"	"
1900	13	19	43.02	+ 8.618	+ 1.580	-.004	-.000	-85	18	26.18	-18.853	+ .436	-.007	.000
1905		20	26.31	+ 8.698	+ 1.606	-.004	-.000		20	0.39	-18.831	+ .444	-.007	.000
1910		21	10.00	+ 8.778	+ 1.632	-.004	-.000		21	34.49	-18.809	+ .452	-.007	.000
1915		21	54.09	+ 8.861	+ 1.658	-.004	-.000		23	8.48	-18.786	+ .460	-.007	.000
1920		22	38.60	+ 8.944	+ 1.684	-.004	-.000		24	42.35	-18.763	+ .468	-.007	.000
1925		23	23.55	+ 9.029	+ 1.711	-.004	-.000		26	16.11	-18.739	+ .476	-.007	.000

No. 3493.  $\kappa$  Octantis 5<sup>m</sup>7

	h	m	s	s	s	s	s	°	'	"	"	"	"	"
1900	13	24	42.12	+ 8.838	+ 1.606	-.073	-.007	-85	16	24.65	-18.717	+ .469	-.024	-.004
1905		25	26.51	+ 8.920	+ 1.631	-.073	-.007		17	58.18	-18.694	+ .478	-.024	-.004
1910		26	11.32	+ 9.001	+ 1.656	-.074	-.007		19	31.58	-18.669	+ .486	-.024	-.004
1915		26	56.53	+ 9.085	+ 1.682	-.074	-.007		21	4.87	-18.645	+ .494	-.025	-.004
1920		27	42.16	+ 9.170	+ 1.708	-.074	-.007		22	38.03	-18.620	+ .503	-.025	-.004
1925		28	28.22	+ 9.256	+ 1.734	-.075	-.007		24	11.07	-18.595	+ .512	-.026	-.004

No. 3661.  $\delta$  Octantis 4<sup>m</sup>1

	h	m	s	s	s	s	s	°	'	"	"	"	"	"
1900	14	10	51.70	+ 9.087	+ 1.043	-.052	-.003	-83	12	35.12	-16.880	+ .719	-.013	-.004
1925		14	42.18	+ 9.353	+ 1.086	-.052	-.003		19	34.82	-16.696	+ .759	-.014	-.004

## EPHEMERIDES OF POLAR STARS. SOUTH.

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No. 3760. L 5823 68 2<sup>m</sup>0 G Octantis z

	a	A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	h m s	s	s	s	s	° ' "	"	"	"	"
1900	14 38 59.88	+24.564	+ 8.762	-.180	-.017	-87 44 30.62	-15.480	+2.279	-.067	-.017
1905	41 3.80	+25.007	+ 8.948	-.181	-.016	45 47.73	-15.364	+2.346	-.068	-.017
1910	43 9.96	+25.459	+ 9.137	-.182	-.015	47 4.26	-15.246	+2.414	-.069	-.017
1915	45 18.41	+25.920	+ 9.328	-.182	-.015	48 20.18	-15.123	+2.484	-.070	-.018
1920	47 29.18	+26.392	+ 9.520	-.183	-.014	49 35.48	-14.997	+2.557	-.070	-.018
1925	49 42.34	+26.872	+ 9.714	-.184	-.013	50 50.13	-14.867	+2.632	-.071	-.018

No. 3806.  $\omega$  Octantis 6<sup>m</sup>0

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	14 49 22.12	+12.256	+ 1.578	+ .012	+ .003	-84 23 40.36	-14.863	+1.211	-.046	+ .001
1925	54 33.51	+12.657	+ 1.632	+ .013	+ .003	29 48.09	-14.553	+1.281	-.046	+ .001

No. 3924.  $\rho$  Octantis 5<sup>m</sup>8

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	15 20 11.55	+13.130	+ 1.404	+ .089	+ .002	-84 7 54.79	-12.792	+1.483	+ .081	+ .010
1925	25 44.20	+13.483	+ 1.425	+ .089	+ .001	13 9.88	-12.414	+1.552	+ .083	+ .010

No. 4196. L 6545 6<sup>m</sup>3 26 G Octantis

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	16 23 34.61	+21.343	+ 2.353	+ .007	+ .001	-86 10 42.86	- 8.180	+2.845	-.001	+ .001
1905	25 21.62	+21.460	+ 2.332	+ .007	+ .001	11 23.44	- 8.046	+2.870	-.001	+ .001
1910	27 9.20	+21.576	+ 2.311	+ .007	+ .001	12 3.31	- 7.902	+2.895	-.001	+ .001
1915	28 57.38	+21.691	+ 2.288	+ .007	+ .000	12 42.46	- 7.756	+2.920	-.001	+ .001
1920	30 46.11	+21.805	+ 2.264	+ .007	+ .000	13 20.88	- 7.610	+2.945	-.001	+ .001
1925	32 35.42	+21.917	+ 2.238	+ .007	+ .000	13 58.55	- 7.462	+2.970	-.001	+ .001

No. 4456. L 7078 6<sup>m</sup>6 29 G Octantis

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	17 29 59.64	+18.747	+ .538	-.026	+ .011	-85 10 34.13	- 2.748	+2.707	-.131	-.004
1905	31 33.44	+18.773	+ .512	-.025	+ .011	10 47.54	- 2.613	+2.713	-.131	-.004
1910	33 7.37	+18.798	+ .486	-.025	+ .011	11 0.26	- 2.477	+2.718	-.131	-.004
1915	34 41.42	+18.822	+ .460	-.024	+ .012	11 12.30	- 2.341	+2.724	-.132	-.004
1920	36 15.59	+18.844	+ .434	-.024	+ .012	11 23.66	- 2.205	+2.728	-.132	-.004
1925	37 49.86	+18.865	+ .408	-.023	+ .012	11 34.34	- 2.068	+2.733	-.132	-.004

No. 4550.  $\chi$  Octantis 5<sup>m</sup>4

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	17 56 4.68	+35.738	+ .369	-.096	+ .050	-87 39 51.49	- .474	+5.197	-.131	-.014
1905	59 3.40	+35.750	+ .157	-.094	+ .051	39 53.21	- .215	+5.200	-.132	-.014
1910	18 2 2.16	+35.753	- .055	-.091	+ .051	39 53.63	+ .046	+5.200	-.132	-.013
1915	5 0.92	+35.745	- .266	-.088	+ .052	39 52.75	+ .306	+5.197	-.133	-.013
1920	7 59.60	+35.726	- .477	-.086	+ .052	39 50.58	+ .565	+5.193	-.134	-.012
1925	10 58.16	+35.697	- .687	-.083	+ .053	39 47.10	+ .825	+5.186	-.134	-.012

No. 4854.  $\sigma$  Octantis 5<sup>m</sup>5

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	18 59 43.71	+102.437	-38.819	+ .109	+ .012	-89 15 16.63	+ 5.157	+14.445	-.009	+ .015
1905	19 8 10.87	+100.393	-42.837	+ .109	+ .006	14 49.06	+ 5.868	+14.008	-.008	+ .015
1910	16 27.32	+ 98.164	-46.257	+ .109	-.000	14 17.99	+ 6.556	+13.533	-.007	+ .015
1915	24 32.25	+ 95.778	-49.058	+ .109	-.006	13 43.53	+ 7.221	+13.037	-.007	+ .015
1920	32 24.91	+ 93.268	-51.276	+ .109	-.011	13 5.82	+ 7.860	+12.516	-.006	+ .015
1925	40 4.75	+ 90.661	-52.933	+ .109	-.016	12 24.98	+ 8.472	+11.987	-.005	+ .014

No. 5564.  $\lambda$  Octantis 5<sup>m</sup>5 h 52<sup>m</sup>78 7<sup>m</sup>7 2<sup>s</sup>8 75°

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	21 35 36.11	+ 9.685	- 1.076	+ .030	-.001	-83 10 43.43	+16.178	+ .828	-.020	+ .003
1925	39 34.92	+ 9.421	- 1.037	+ .030	-.001	3 56.45	+16.380	+ .785	-.020	+ .002



## EPHEMERIDES OF POLAR STARS. SOUTH.

No. 5576. L 6460 6<sup>m</sup>.7 54 G Octantis B

	$\alpha$	A. V.	S. V.	$\mu$	100 $\Delta\mu$	$\delta$	A. V.	S. V.	$\mu'$	100 $\Delta\mu'$
	h m s	s	s	s	s	° ' "	"	"	"	"
1900	21 37 38.82	+68.391	-88.544	+0.017	+0.097	-89 19 34.5	+16.263	+5.799	-.041	+.001
1905	43 10.00	+64.140	-81.593	+0.022	+0.082	17 41.44	+16.537	+5.250	-.041	+.001
1910	48 20.77	+60.222	-75.178	+0.025	+0.073	16 18.12	+16.787	+4.765	-.041	+.001
1915	53 12.74	+56.613	-69.284	+0.029	+0.063	14 53.60	+17.015	+4.330	-.041	+.002
1920	57 47.39	+53.287	-63.875	+0.032	+0.054	13 28.00	+17.221	+3.943	-.041	+.002
1925	22 2 6.04	+50.218	-58.923	+0.034	+0.047	12 1.42	+17.409	+3.587	-.041	+.002

No. 5750. v Octantis 6<sup>m</sup>.0

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	22 12 34.98	+12.836	-3.200	-.040	+.000	-86 28 33.98	+17.952	+.835	+.067	-.003
1905	13 38.76	+12.677	-3.140	-.040	+.001	27 4.12	+17.993	+.817	+.067	-.003
1910	14 41.76	+12.522	-3.081	-.040	+.001	25 34.05	+18.034	+.799	+.067	-.003
1915	15 43.98	+12.369	-3.024	-.040	+.001	24 3.78	+18.074	+.782	+.067	-.003
1920	16 45.45	+12.219	-2.969	-.040	+.001	22 33.32	+18.112	+.765	+.066	-.003
1925	17 46.18	+12.072	-2.913	-.040	+.001	21 2.66	+18.149	+.749	+.066	-.003

No. 5994.  $\tau$  Octantis 5<sup>m</sup>.7

	h m s	s	s	s	s	° ' "	"	"	"	"
1900	23 13 9.35	+10.979	-5.236	+0.015	-.006	-88 1 52.93	+19.643	+.317	+.013	.000
1905	14 3.60	+10.724	-5.028	+0.015	-.005	0 14.68	+19.658	+.304	+.013	.000
1910	14 56.59	+10.476	-4.830	+0.014	-.005	-87 58 36.36	+19.673	+.291	+.013	.000
1915	15 48.38	+10.240	-4.643	+0.014	-.005	56 57.96	+19.687	+.279	+.013	.000
1920	16 39.01	+10.012	-4.465	+0.014	-.005	55 19.49	+19.701	+.267	+.013	.000
1925	17 28.51	+9.793	-4.296	+0.014	-.005	53 40.94	+19.714	+.255	+.013	.000

## APPENDIX II.

### NOTES TO THE CATALOGUE.

PERIODIC PROPER-MOTION, ETC.

## APPENDIX II.

### No. 3. Bradley 3210 m.

This star is  $\Sigma$  3062 and is a binary. See (*Stellar Systems*) assigned a period of 104.6 years. His orbit is employed here in making further deductions. The adopted magnitudes of the components are 6<sup>m</sup>.6 and 7<sup>m</sup>.6; the distance is always less than 2". The majority of the observers appear to have taken the star as one mass; though it is not always easy to determine what has been done. The weight of the meridian-observations is totally insufficient to determine the relative masses in this case, because of this uncertainty as to the pointing, which may have been on the principal star in one case, on the general mass of light in another, and on the mean in still another. From experience with similar systems (see Introduction), it is very probable that the mass of the brighter star is not much greater than that of the fainter star. Accordingly, it has been assumed that the masses of the two stars are equal. Thus the catalogue-position refers to the mean between the two stars.

The following table exhibits the amounts which must be added to the catalogue-position, computed for the respective years, in order to get the position of the brighter star. Subtraction of the same quantities is supposed to give the position of the fainter star. Obviously, the predicted positions of this star are liable to a material uncertainty beyond that which would in ordinary cases attach to the weight of observations.

To get position of brighter star add to catalogue-position of mean. (Adopted period, 104.6 years.)

Date.	$\Delta\alpha.$	$\Delta\delta.$	Date.	$\Delta\alpha.$	$\Delta\delta.$
	<sup>s</sup>	"		<sup>s</sup>	"
1820	+ .044	+ .52	1875	— .084	+ .26
1825	+ .051	+ .35	1880	— .078	+ .36
1830	+ .044	+ .11	1885	— .068	+ .47
1835	+ .028	— .14	1890	— .056	+ .56
1840	— .002	— .34	1895	— .043	+ .63
1845	— .036	— .38	1900	— .029	+ .68
1850	— .060	— .34	1905	— .014	+ .71
1855	— .076	— .24	1910	+ .002	+ .72
1860	— .084	— .12	1915	+ .018	+ .69
1865	— .088	— .02	1920	+ .034	+ .62
1870	— .088	+ .13	1925	+ .045	+ .50

### No. 168. $\eta$ Cassiopeiæ, $\Sigma$ 60.

The annual parallax of this star may be taken as 0".17. This is a binary of period 233.3 years, according to Lewis (*Mem. R.A.S.*, Vol. LVI, p. 16). Adopting these elements, meridian-observations in R. A. indicate that the center of gravity is at the distance 0.62 (wt. 60) from the principal toward the fainter star; from equations in declination the corresponding quantity is 0.29 (wt. 85). Accordingly, the ratio of the masses is assumed to be as 1.0 to .76, the brighter star being the unit. This result is very uncertain, however, owing to the interdependence of the expressions for orbital and proper motions respectively. The adopted magnitudes are 3<sup>m</sup>.6 and 7<sup>m</sup>.9. The position in the catalogue is given for the adopted center of gravity. The following little table shows the quantities which must be added to this catalogue-place of the center of gravity in order to produce the predicted place of the brighter star. If these quantities be multiplied by —1.33 and added to the catalogue-place, we shall have the predicted positions of the fainter companion.



Position of brighter star minus position of center of gravity.

Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .
	s	"		s	"
1800	-.362	-1.78	1885	-.018	+2.19
1810	-.369	-1.27	1890	+.026	+2.16
1820	-.364	-0.72	1895	+.070	+2.04
1830	-.347	-.15	1900	+.110	+1.82
1840	-.316	+.42	1905	+.144	+1.51
1850	-.273	+.98	1910	+.170	+1.11
1860	-.216	+1.49	1915	+.186	+.64
1870	-.145	+1.90	1920	+.190	+.14
1875	-.105	+2.05	1925	+.183	-.38
1880	-.062	+2.15			

Nos. 376-377. L 495. 3 G Eridani, *p.* Dunlop 5.

This is probably a binary of long period, though the material of observation is, as yet, insufficient for the computation of a reliable orbit. Under the circumstances, no very marked error is likely to result from the computation of position and motion for each of the components in the usual manner, without taking into account possible curvature of orbital motion.

No. 1732.  $\alpha$  Canis Majoris (Sirius).

The annual parallax of this star is about 0''.4. The catalogue-position is for the center of gravity. In deriving the orbit of the bright star about this center of gravity the orbit of the faint companion is adopted from the computation of Zwiers, as quoted in the Bulletin of the Lick Observatory, No. 84, thus:

$$\begin{array}{llll}
 P = 48.84 \text{ years} & T = 1894.09 & e = 0.588 & a = 7''.594 \\
 \omega = 147.89^\circ & \Omega = 44.50^\circ & i = 46.03^\circ & \log \mu = 0.86752
 \end{array}$$

The ratio of the masses results thus: from residuals in right-ascension, .284 to .716; from residuals in declination, .279 to .721; adopted, .282 to .718. Or calling the mass of the bright star 1.0, that of the companion becomes .393. Thus the mass of the bright star is only about two and one-half times that of the companion. This result seems to be entitled to confidence. The following table gives the quantities that must be added to positions computed from the catalogue-place and motion of the center of gravity in order to get the predicted position of the bright star at the corresponding dates. In order to get the corresponding positions of the faint star, multiply the tabular quantities by - 2.55 and add to the position computed for the center of gravity. The nominal epochs and probable errors for this star are:

in R. A., 1871; p.e. at epoch  $\pm''.023$ ; at 1910  $\pm''.05$ ; of c.v.  $\pm''.11$ ;  
 in Decl., the epoch is 1869; p.e. at epoch  $\pm''.028$ ; at 1910,  $\pm''.06$ ; of c.v.  $\pm''.13$ .

But the p.e. of orbital motion adds to and complicates these numbers so that they do not apply. They simply serve to indicate the weight of observation which this star has received.

Date.		$\Delta\alpha.$	$\Delta\delta.$	Date.		$\Delta\alpha.$	$\Delta\delta.$
		<sup>s</sup>	<sup>"</sup>			<sup>s</sup>	<sup>"</sup>
1797.16	1846	+ .047	+ .60	1837.16	1886	- .076	- 1.85
1798.16	1847	+ .034	+ .89	1838.16	1887	- .060	- 1.75
1799.16	1848	+ .015	+ 1.05	1839.16	1888	- .043	- 1.62
1800.16	1849	- .007	+ 1.12	1840.16	1889	- .025	- 1.44
1801.16	1850	- .028	+ 1.12	1841.16	1890	- .005	- 1.23
1802.16	1851	- .048	+ 1.08	1842.16	1891	+ .017	- .94
1803.16	1852	- .066	+ 1.01	1843.16	1892	+ .033	- .60
1804.16	1853	- .083	+ .92	1844.16	1893	+ .050	- .06
1805.16	1854	- .098	+ .82	1845.16	1894	+ .053	+ .27
1806.16	1855	- .113	+ .70	1846.16	1895	+ .045	+ .63
1807.16	1856	- .125	+ .58		1896	+ .030	+ .92
1808.16	1857	- .138	+ .45		1897	+ .011	+ 1.07
1809.16	1858	- .148	+ .32		1898	- .011	+ 1.12
1810.16	1859	- .158	+ .18		1899	- .031	+ 1.12
1811.16	1860	- .167	+ .05		1900	- .050	+ 1.07
1812.16	1861	- .174	- .09		1901	- .068	+ 1.00
1813.16	1862	- .181	- .23		1902	- .085	+ .91
1814.16	1863	- .187	- .36		1903	- .100	+ .80
1815.16	1864	- .191	- .49		1904	- .114	+ .69
1816.16	1865	- .195	- .62		1905	- .127	+ .56
1817.16	1866	- .198	- .75		1906	- .139	+ .44
1818.16	1867	- .201	- .87		1907	- .150	+ .30
1819.16	1868	- .202	- .99		1908	- .159	+ .17
1820.16	1869	- .202	- 1.11		1909	- .168	+ .04
1821.16	1870	- .202	- 1.22		1910	- .175	- .10
1822.16	1871	- .201	- 1.33		1911	- .182	- .23
1823.16	1872	- .199	- 1.43		1912	- .188	- .37
1824.16	1873	- .196	- 1.52		1913	- .192	- .50
1825.16	1874	- .192	- 1.61		1914	- .196	- .63
1826.16	1875	- .188	- 1.69		1915	- .199	- .76
1827.16	1876	- .182	- 1.77		1916	- .201	- .88
1828.16	1877	- .176	- 1.83		1917	- .202	- 1.00
1829.16	1878	- .169	- 1.89		1918	- .203	- 1.11
1830.16	1879	- .161	- 1.93		1919	- .202	- 1.22
1831.16	1880	- .152	- 1.97		1920	- .201	- 1.33
1832.16	1881	- .142	- 1.99		1921	- .199	- 1.43
1833.16	1882	- .131	- 1.99		1922	- .195	- 1.51
1834.16	1883	- .119	- 1.99		1923	- .191	- 1.61
1835.16	1884	- .106	- 1.97		1924	- .187	- 1.70
1836.16	1885	- .092	- 1.92		1925	- .181	- 1.78

No. 1979.  $\alpha$  Geminorum *m*. Castor.  $\Sigma$  1110.

The magnitudes are assumed to be  $2^m.9$  and  $1^m.9$  for  $\alpha^1$  and  $\alpha^2$  respectively. The extent of relative motion of the components thus far measured is not yet sufficient to permit the computation of a reliable orbit. Nevertheless, the motion is so slow that the best of the recently computed orbits should afford fairly good approximations to correctly predicted relative positions for some years to come. Accordingly, Doberk's orbit (*A.N. Bd.* 166, *s.* 145) has been adopted as the basis of further computations. The problem of computing relative masses of the components from the meridian-observations is manifestly indeterminate. Both of the components are spectroscopic binaries and, under certain assumptions as to the situation of the orbital planes, Dr. Curtis of the Lick Observatory has found that the fainter star has a mass about six times greater than that of the brighter component. Notwithstanding the apparent weight of evidence in favor of some such conclusion as that, the *a priori* probabilities in favor of nearer equality in the masses seem entitled to weight. Thus, in no case in the present work, where the material for computing the relative masses of the two components of a binary has been sufficient for a fairly trustworthy result, has the mass of a faint companion turned out to be demonstrably greater than that of the brighter star. In the present instance, accordingly, it has been assumed that the center of gravity is at the mean

between the two stars. Since the curvature of the orbit is very small, the practical error of this assumption can not be very serious for ten or fifteen years to come. It is hardly necessary to remark, however, that the value of this as a fundamental star is impaired by the circumstances described. The catalogue-place is that of the mean. In order to determine the position of  $\alpha^2$  the quantities taken from the following table must be added to the catalogue-position for the respective years. To get the corresponding positions of  $\alpha^1$ , reverse the signs of the table and apply as before.

Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .
	<sup>s</sup>	<sup>"</sup>		<sup>s</sup>	<sup>"</sup>
1755	-.086	+1.54	1864	-.186	-1.30
1757	-.088	+1.50	1872	-.184	-1.48
1800	-.148	+ .44	1880	-.180	-1.64
1808	-.158	+ .22	1888	-.173	-1.79
1816	-.166	.00	1896	-.164	-1.92
1824	-.172	-.23	1900	-.158	-1.96
1832	-.178	-.45	1904	-.152	-2.00
1840	-.182	-.67	1912	-.138	-2.05
1848	-.184	-.89	1920	-.120	-2.06
1856	-.186	-1.10	1924	-.110	-2.04

#### No. 2008. $\alpha$ Canis Minoris. Procyon.

The annual parallax may be taken as  $0''.33$ . After trial it was found that none of the published orbits of this binary could be satisfactorily reconciled with the meridian-observations of the bright star and the micrometrical observations of the fainter star at the same time. Accordingly, a new orbit was computed by successive approximations. The result gave for the ratio of masses, 1:33, the bright star being the more massive. These are the resulting orbits:

##### BRIGHT STAR ABOUT THE CENTER OF GRAVITY.

$$\begin{aligned}
 T &= 1886.5 \\
 \text{Period} &= 39.0 \text{ years} \\
 \Omega &= 330^\circ 7' \\
 i &= 14.2 \\
 \omega &= 36.8 \\
 a &= 1''.00 \\
 e &= .324
 \end{aligned}$$

##### FAINT STAR ABOUT THE BRIGHTER.

$$\begin{aligned}
 T &= 1886.5 \\
 \text{Period} &= 39.0 \text{ years} \\
 \Omega &= 150^\circ 7' \\
 i &= 14.2 \\
 \omega &= 36.8 \\
 a &= 4''.05 \\
 e &= .324
 \end{aligned}$$

The orbit is, of course, very uncertain, though the ratio of the masses is fairly well determined. The observation of the double is very difficult; and the meridian-observations on a star so bright as this are very liable to be affected with anomalies. The following table indicates the results of comparison of the orbit with the micrometrical observations published in *Burnham's General Catalogue* of double stars, in the sense, C-O:

Observer.	Epoch.	$\theta_c - \theta_o$	$\rho_c - \rho_o$	Nights.	Observer.	Epoch.	$\theta_c - \theta_o$	$\rho_c - \rho_o$	Nights.
		<sup>o</sup>	<sup>"</sup>				<sup>o</sup>	<sup>"</sup>	
Schäberle	1896.93	-2.8	-.01	4	Barnard	1899.07	+0.3	+0.3	3
Aitken	1897.0	-3.0	-.21	4	Aitken	1899.96	+1.4	+1.0	3
Hussey	1897.16	-0.6	-.03	3	Barnard	1900.05	+0.4	-.07	6
Schäberle	1897.82	-1.0	+0.8	6	Lewis	1900.23	-0.9	+2.3	1
See	1897.83	-4.3	-.06	1	See	1900.29	+5.3	+4.6	4
Boothroyd	1897.83	-5.2	-.08	1	Aitken	1901.20	+4.1	+0.1	2
Aitken	1897.88	-0.1	+0.4	3	Barnard	1901.88	+2.5	+1.2	2
Aitken	1898.21	+0.5	-.04	2	Lewis	1902.21	+2.8	-.17	2
Barnard	1898.21	-0.2	-.05	6	Hussey	1902.24	+1.3	+1.1	1
Lewis	1898.24	-0.1	+5.2	1	Barnard	1903.15	+1.4	+1.1	3
Hussey	1898.28	+1.2	+2.8	1	Aitken	1905.14	-3.9	+1.7	1
Aitken	1898.76	-1.8	-.07	3					



If we gather the residuals, C-O in  $\Delta\alpha$  and  $\Delta\delta$  for the meridian-observations (extending from 1757 to 1900) into the revolution included between 1861 and 1901, we have the following representation of normal places:

MERIDIAN OBSERVATION C-O IN  $\Delta\alpha$  AND  $\Delta\delta$ .

R. A.				Decl.			
Date.	No. of Catal.	Weight.	$\Delta\alpha$ .	Date.	No. of Catal.	Weight.	$\Delta\delta$ .
1863.0	4	15	— .17	1863.3	6	18	+ .04
1865.6	6	25	— .07	1865.2	3	14	+ .15
1869.3	5	23	+ .07	1869.1	5	14	— .05
1871.9	5	11	+ .15	1871.9	4	7	— .26
1875.0	6	17	+ .04	1874.4	4	7	— .21
1877.9	5	20	+ .08	1877.2	7	17	— .12
1881.3	4	13	+ .17	1882.1	9	34	— .02
1885.0	7	25	— .09	1886.3	3	13	+ .13
1889.5	9	34	— .02	1889.9	7	21	+ .09
1895.1	6	19	+ .04	1894.9	6	19	+ .01
1899.1	4	14	+ .07	1898.0	5	14	— .03

The probable error of the unit of weight from the above residuals (three unknown quantities) is  $\pm''.29$ , while the theoretical value is  $\pm''.30$ . The representation seems to be satisfactory.

The following table gives the quantities which must be added at the respective dates to the position of the center of gravity, as printed in this Catalogue, in order to have the position of the principal star at that date. By adding or subtracting multiples of 39 years to the arguments of this table, the value of  $\Delta\alpha$  and  $\Delta\delta$ , with a slight correction for precession, can be computed for other dates. If positions of the fainter star are required, multiply the tabular numbers by  $-3.05$  and add to the position of the center of gravity.

Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .
	s	"		s	"		s	"
1862	+ .026	— 1.15	1883	— .040	+ .45	1904	+ .005	— 1.26
1863	+ .019	— 1.20	1884	— .029	+ .56	1905	— .003	— 1.26
1864	+ .012	— 1.24	1885	— .016	+ .63	1906	— .010	— 1.25
1865	+ .005	— 1.26	1886	— .002	+ .65	1907	— .017	— 1.22
1866	— .002	— 1.26	1887	+ .012	+ .62	1908	— .024	— 1.19
1867	— .010	— 1.25	1888	+ .025	+ .54	1909	— .031	— 1.14
1868	— .017	— 1.23	1889	+ .036	+ .41	1910	— .037	— 1.08
1869	— .024	— 1.19	1890	+ .045	+ .25	1911	— .043	— 1.00
1870	— .030	— 1.14	1891	+ .051	+ .10	1912	— .048	— .91
1871	— .037	— 1.07	1892	+ .055	— .07	1913	— .053	— .81
1872	— .043	— .99	1893	+ .057	— .24	1914	— .056	— .69
1873	— .048	— .91	1894	+ .057	— .40	1915	— .060	— .57
1874	— .053	— .81	1895	+ .056	— .55	1916	— .061	— .43
1875	— .057	— .70	1896	+ .053	— .69	1917	— .062	— .29
1876	— .060	— .57	1897	+ .049	— .81	1918	— .061	— .13
1877	— .062	— .44	1898	+ .044	— .92	1919	— .059	+ .02
1878	— .062	— .29	1899	+ .038	— 1.01	1920	— .054	+ .17
1879	— .061	— .14	1900	+ .032	— 1.09	1921	— .048	+ .32
1880	— .059	+ .01	1901	+ .026	— 1.16	1922	— .039	+ .45
1881	— .055	+ .17	1902	+ .019	— 1.20	1923	— .028	+ .56
1882	— .048	+ .32	1903	+ .012	— 1.24	1924	— .016	+ .63
						1925	— .002	+ .65

No. 2984.  $\xi$  Ursæ Maj. c.g.  $\Sigma$  1523.

The components are of the magnitudes  $4^m.1$  and  $5^m.1$  respectively. The orbit of this star is comparatively determinate and is here adopted from the computations of See (*Stellar Systems*). The period is 60 years; the major axis of the apparent orbit is  $4''.8$ ; and the minor axis is  $2''.7$ . Taking the mass of the brighter star as unity, that of the companion is found to be:

$$\begin{aligned} &\text{from the right-ascensions, } 1.43 \\ &\text{from the declinations, } .75 \end{aligned}$$

or 1.09 in the mean. The masses are thus very near equality. They are assumed to be exactly equal. This places the center of gravity midway between the two stars. In making these deductions, however, it has been assumed that whenever the observers record the position of the "mass," the pointing was approximately upon a point one-third of the distance from the brighter toward the fainter star. This can only be regarded as a rough approximation to the truth; and, therefore, the present determination of relative mass can not lay claim to precision.

If the position of the bright star is desired, it may be obtained by adding to the catalogue-position, reduced to the required date, the quantity taken from the following table for the corresponding date. For the fainter companion, reverse the sign of the table and add as before.

Date.		$\Delta\alpha.$	$\Delta\delta.$	Date.		$\Delta\alpha.$	$\Delta\delta.$
		s	"			s	"
1800	1860	-.110	+ .36	1836	1896	+.006	+ .94
1804	1864	-.098	+ .08	1840	1900	-.035	+ 1.00
1808	1868	-.068	-.21	1844	1904	-.062	+ .98
1812	1872	-.018	-.42	1848	1908	-.084	+ .92
1816	1876	+.040	-.38	1852	1912	-.100	+ .78
1820	1880	+.068	-.08	1856	1916	-.110	+ .60
1824	1884	+.068	+ .28	1860	1920	-.110	+ .36
1828	1888	+.050	+ .58	1864	1924	-.098	+ .08
1832	1892	+.022	+ .80				

## No. 3112. Groomb 1830.

If the proper motion of a star is assumed to be uniform in a straight line, it will not be uniform in circular measure upon the sky, though this deviation in any case actually presented in nature will be exceedingly slight. This theoretical deviation from uniformity in angular motion was long ago pointed out by Bessel; and Seeliger (*Ast. Nach., Bd. 154, s. 67*) has derived formulas expressing this effect. Dr. Ristenpart attempted to make an application of such formulas to the case of Groomb 1830 (*V.J.S., Bd. 37, s. 242*), but reached a negative result. Many years ago the writer made such an attempt, finding the weight of observation at that time totally insufficient for even a nominal solution of the problem. Even now the determination of the variation of the proper motion of this star due to foreshortening is associated with a probable error quite comparable with the quantity to be determined. The foreshortening effect produces terms  $\frac{d\mu_0}{dt}$ ,  $\frac{d^2\mu_0}{dt^2}$ , etc., in the proper motion, of which the first, only, can have any sensible effect during the period of observation thus far elapsed. In other words, we may assume that the proper motion varies uniformly with the time. This produces in the positions a term:

$$\frac{1}{2} \frac{\Delta\mu_0}{dt} \left( \frac{T-1875}{100} \right)^2$$

$\frac{\Delta\mu_0}{dt}$  may be resolved into its components  $\frac{d\mu}{dt}$  and  $\frac{d\mu'}{dt}$ , and these latter may be determined from the results of meridian-observations. In the equations for determining the correction to the assumed place, the term,  $\frac{1}{2} \frac{\Delta\mu}{dt} (\tau)^2$ , has been introduced to account for the perspective effect in right-ascension, so that the conditional equation becomes:

$$\Delta\alpha_0 + \Delta\mu(\tau) + \frac{1}{2} \frac{\Delta\mu}{dt} (\tau)^2 = n$$

and similarly for declination. The unit of  $\tau$  is one century. We take as centennial  $\mu_0$ ,  $703''5$ ; for  $\mu$ ,  $+399''5$ ; and for  $\mu'$ ,  $-579''0$ , these being the instantaneous values assumed for 1875. Then the solution of the conditional equations gives:

$$\text{From R.A., } \frac{1}{2} \frac{\Delta\mu}{dt} (\text{centennial}) = -''.0084; \quad \frac{\Delta\mu_0}{dt} = -''.0296 \pm''.0380$$

$$\text{From decl., } \frac{1}{2} \frac{\Delta\mu'}{dt} (\text{centennial}) = -''.0173; \quad \frac{\Delta\mu_0}{dt} = +''.0420 \pm''.0214$$

Assigning to these two results weights, one for R.A. and 3 for decl., in close accordance with their respective probable errors, we have as the value of  $\frac{\Delta\mu_0}{dt}$ , determined from the meridian-observations:

$$\frac{\Delta\mu_0}{dt} = +''.0241 \pm''.0190$$

In the case of Groomb 1830,  $\frac{\Delta\mu_0}{dt}$  may be found in another way. Let  $\pi$  be the annual parallax of a star,  $\mu_0$  its centennial proper-motion in arc, and  $l$  its radial motion in kilometers per second, then, after Seeliger (*Ast. Nach., Bd., 154, s. 67*):

$$\frac{\Delta\mu_0}{dt} = -.00000205 l \mu_0 \pi$$

If, now, for Groomb 1830 we put  $l = -96$  km. from the result obtained at the Lick Observatory;  $\mu' = 703''5$ ; and  $\pi = .0''12$ , we have,

$$\frac{\Delta\mu_0}{dt} = +''.0166$$

in good agreement with the value of the same quantity derived from meridian-observations. As there is some uncertainty in the determination of motion in the line of sight for so faint a star, and proportionately still greater uncertainty in a parallax so small, it may be assumed that a more probable result would be reached by adopting the mean of the values derived from the two different sources or:

$$\text{Adopted } \frac{\Delta\mu_0}{dt} = +''.0204$$

The resulting corrections to the secular variations computed in the ordinary way, as for other stars in the Catalogue, are:

$$\frac{\Delta\mu}{dt} = +''.00098 \quad \frac{\Delta\mu'}{dt} = -''.0168$$

which have been adopted. It is probable that the adoption of these quantities may result in a smaller error of prediction than would have resulted from their rejection.

No. 3307.  $\gamma$  Virginis.  $\Sigma$  1670.  $3^m6-3^m6$ .

This is a celebrated binary system having a period of about 194 years according to See (*Stellar Systems*). See's orbit is here adopted in computing the relation of the separate stars to the center of gravity. Since the effective meridian-observations cover only about one-half of the orbital period, there is serious indetermination between the orbital and proper-motion. However, both of the stars have been well observed; and the comparatively equal brightness of components is probably favorable to relatively small systematic errors of observation wherever the mean has been observed. Assuming the star which is now south-following to be the principal star, the distance of the center of gravity from it in terms of the distance,  $\rho$ , between the two components is found to be as follows:

From observations of $\gamma^1$ , R. A.,	0.30	wt. 1
Decl.,	0.56	wt. 2
From observations of $\gamma^2$ R. A.,	0.49	wt. 1
Decl.,	0.65	wt. 2
Mean by weights	0.54	



The observed relative masses, calling the mass of the principal star unity, are: 1 to 1.1, the companion being the more massive. But since the brightness of the two components is nearly the same, and the difference in observed relative masses is smaller than the probable error properly attaching to that difference, the masses are assumed to be equal. On that basis the following table has been prepared, giving quantities which must be added to the catalogue-place to get the place of the principal star. Reversing the signs of the table and adding, we derive the predicted place of the companion star, at the present time north, preceding.

Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .
	s	"		s	"		s	"
1754	+ .146	- 2.32	1844	- .012	- .93	1888	+ .082	- 2.49
1756	+ .147	- 2.30	1848	- .003	- 1.24	1892	+ .088	- 2.54
1758	+ .148	- 2.26	1852	+ .007	- 1.48	1896	+ .094	- 2.56
1812	+ .118	- .78	1856	+ .016	- 1.68	1900	+ .100	- 2.58
1816	+ .110	- .61	1860	+ .026	- 1.86	1904	+ .106	- 2.60
1820	+ .100	- .43	1864	+ .036	- 2.00	1908	+ .112	- 2.61
1824	+ .086	- .24	1868	+ .044	- 2.12	1912	+ .116	- 2.61
1828	+ .069	- .04	1872	+ .052	- 2.22	1916	+ .121	- 2.60
1832	+ .045	+ .16	1876	+ .060	- 2.30	1920	+ .126	- 2.59
1836	.000	+ .21	1880	+ .068	- 2.38	1924	+ .130	- 2.58
1840	- .020	- .50	1884	+ .074	- 2.44			

#### No. 3735. $\alpha$ Centauri.

The magnitudes are  $0^m.0$  and  $1^m.5$ , and the annual parallax may be taken as  $0''.75$ . This is one of the most interesting stars in the sky on account of its large parallax,  $0''.75$ , and its comparatively rapid orbital motion. In computing the place of the center of gravity, the orbit of Roberts (*A.N.*, 133, 105) was adopted. This makes the period 81.185 years. The components are so widely separated that the observations of either should not be seriously affected in a systematic way by the presence of the other. In determining the position of the center of gravity, the two components are almost equally available. Following is a summary of results for the mass of the fainter component, that of the principal star being assumed as the unit:

	Mass	Wt.
Observations of fainter star, R. A.,	0.67	8
Decl.,	0.78	55
Observations of brighter star, R. A.,	0.89	14
Decl.,	0.91	70
Adopted mean	0.85	

The center of gravity appears to be located at about  $0.458 \rho$ , from the brighter toward the fainter star,  $\rho$  representing the entire distance. In computing the proper-motion, some of the observations were corrected for parallax, according to a summary process, assuming the parallax to be  $0''.75$ . The following table gives the quantities which must be added to the Catalogue-prediction for the respective dates in order to derive the position of the brighter component. If the numbers of the table be multiplied by  $-1.183$  and added to the positions computed from the Catalogue, we shall have the positions of the fainter component for the respective dates.

Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .
	s	"		s	"		s	"
1830	+ .700	+ 7.31	1868	- .172	- 4.42	1890	+ .467	+ 7.54
1835	+ .658	+ 6.11	1869	- .199	- 4.47	1895	+ .596	+ 8.53
1840	+ .592	+ 4.70	1870	- .223	- 4.46	1900	+ .671	+ 8.72
1845	+ .498	+ 3.06	1872	- .251	- 4.09	1905	+ .707	+ 8.37
1850	+ .406	+ .76	1874	- .246	- 3.17	1910	+ .703	+ 7.61
1854	+ .271	- .21	1876	- .188	- 1.60	1915	+ .671	+ 6.49
1858	+ .150	- 1.68	1878	- .097	+ .25	1920	+ .612	+ 5.10
1862	+ .019	- 3.04	1880	+ .017	+ 2.12	1925	+ .523	+ 3.50
1866	- .112	- 4.11	1885	+ .279	+ 5.64			

No. 3798.  $\xi$  Bootis c.g.  $\Sigma$  1888.

The period of this binary is 148.46 years according to Biesbroeck (*A.N.*, 3989), and the magnitudes of the components are 4<sup>m</sup>.8 and 6<sup>m</sup>.7. Although the position angle of the companion had described less than 180° within the period of accurate measurements, the orbits recently computed are apparently entitled to greater weight than is usual under such circumstances. However, the relative motion of the components has been slowly accelerating up to the present time; and this is a condition that makes for uncertainty in prediction. Yet it is probably better to make some attempt to determine the relation of the masses of the two stars, and then refer the motion of the components to the resulting center of gravity than it would be to assume that the motion of either star is rectilinear. For the distance of the brighter star from the center of gravity, reckoned in terms of  $\rho$ , the distance between the two stars, we have:

From right-ascension,	.60 $\rho$	wt. 2
From decl.,	.41 $\rho$	wt. 5
Adopted,	.47 $\rho$	

Accordingly, putting the mass of the brighter star as unity, that of the companion would be .87. If the numbers of the following table be added to the catalogue-position of the corresponding dates, we shall have the places of the brighter star. Multiplying the tabular numbers by  $-1.15$ , and adding to the catalogue-place, produces the corresponding positions of the companion.

Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .
	s	"		s	"		s	"
1824	+ .094	- 3.13	1888	+ .110	+ .42	1908	- .028	+ .94
1832	+ .114	- 2.95	1892	+ .091	+ .72	1910	- .043	+ .72
1840	+ .131	- 2.68	1896	+ .068	+ .98	1912	- .055	+ .45
1848	+ .144	- 2.32	1900	+ .039	+ 1.15	1914	- .062	+ .14
1856	+ .152	- 1.89	1902	+ .023	+ 1.18	1916	- .067	- .17
1864	+ .154	- 1.38	1904	+ .006	+ 1.16	1920	- .068	- .78
1872	+ .149	- .82	1906	- .012	+ 1.09	1924	- .036	- 1.28
1880	+ .135	- .21						

Nos. 3846 and 3847. Grw<sub>45</sub> 1220 and Br 1923. 44 Bootis i.  $\Sigma$  1909.

The positions in the Catalogue are given to the nearest 0<sup>s</sup>.1 and 1" only because of the well-marked binary motion of the two components. In particular, the fact that the companion reached apastron about 1870 and is now well on its way toward periastron, with accelerating motion, tends to make future prediction unsafe, in view of the absence of knowledge as to the approximate elements of the orbit. The magnitudes, about 5<sup>m</sup>.2 and 6<sup>m</sup>.2, do not appear to be sufficiently unequal to render marked inequality of masses probable. The center of gravity is likely to be near the mean between the two stars. Adopting the mean, we should have:

$$R. A. = 15^h 0^m 29^s.537. \quad \text{Decl.} = + 48^\circ 2' 35''.65. \quad \mu = - .0406. \quad \mu' = + .028$$

No. 3923.  $\eta$  Coronæ Bor.  $\Sigma$  1937.

A very well-known binary. The period is about 41.5 years; the distances never much exceed 1"; and the magnitudes of the two stars are assumed to be about 5<sup>m</sup>.7 and 6<sup>m</sup>.2. The meridian observers have necessarily pointed upon the general mass of light, and this can not have been very different from the center of gravity, to which the catalogue-position may be supposed approximately to correspond.

No. 3960.  $\delta$  Serpentis.  $\Sigma$  1954.

Among the meridian-observations employed in this discussion, none previous to 1850 refer to the south star. If the position for 1900 of that component is desired, it can best be obtained through the micrometer-differences, thus:

$$\text{South star, } 5^m.1. \quad R. A. = 15^h 30^m 13^s.492. \quad \text{Decl.} = + 10^\circ 52' 19''.40. \quad \mu = - .0041. \quad \mu' = - .004$$

No. 3988.  $\zeta^2$  Coronæ Bor.  $\Sigma$  1965.

The companion is of magnitude 6<sup>m</sup>.1, and is very nearly fixed with reference to the principal star at a distance of 6". Meridian observers neglected the companion, however, until near 1860. Con-

sequently the published material for computing the proper motion of  $\zeta^1$  is slender. Assuming the p.m. to be the same as that given for  $\zeta^2$  in the Catalogue, and that

$$\Delta\alpha = -0^s.438 \quad \Delta\delta = +3''.40, \text{ for } 1900$$

as computed from the micrometrical observations, we have for 1900:

$$\zeta^1 \text{ Coronae, R. A.} = 15^h 35^m 36^s.282. \quad \text{Decl.} = 36^\circ 57' 40''.49$$

A few good determinations of the position of  $\zeta^2$  at the present time would permit of a fairly accurate determination of p.m. from the meridian-observations.

No. 4138.  $\sigma$  Coronae Bor. *c.g.*,  $\Sigma$  2032.

The companion is of 6<sup>m</sup>.8. The orbit is adopted from See (*Stellar Systems*). The period is 370 years, and is, of course, very uncertain. But since periastron occurred early in the nineteenth century, the determination of the relative masses seems to be entitled to some consideration, though it is, of course, uncertain. For the coefficient of  $\rho$  in the expressions to designate the distance of the center of gravity from the bright toward the faint star we have:

$$\left. \begin{array}{l} \text{From R. A.} = .46 \pm .20 \\ \text{From decl.} = .24 \pm .15 \end{array} \right\} \text{Adopted, } .32 \pm .12$$

If we put the mass of the bright star as unity, that of the faint star would be .47. It seems probable, at least, that the mass of the companion is not greater than that of the so-called principal star. Assuming the center of gravity to divide the distances in the proportion of .32 to .68, we have the numbers of the following table, which, added to the catalogue-place, will predict the place of the bright star. Multiplying the numbers of the table by  $-2.12$  and adding in like manner, we derive the positions of the companion.

Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .
	<sup>s</sup>	"		<sup>s</sup>	"		<sup>s</sup>	"
1800	-.016	-.70	1844	-.016	+.54	1888	+.048	+1.18
1804	-.022	-.66	1848	-.010	+.65	1892	+.053	+1.20
1808	-.027	-.58	1852	-.004	+.74	1896	+.058	+1.22
1812	-.031	-.48	1856	+.002	+.82	1900	+.063	+1.23
1816	-.034	-.37	1860	+.009	+.89	1904	+.067	+1.23
1820	-.036	-.24	1864	+.015	+.96	1908	+.071	+1.24
1824	-.036	-.11	1868	+.021	+1.01	1912	+.075	+1.24
1828	-.035	+.03	1872	+.026	+1.06	1916	+.079	+1.24
1832	-.031	+.17	1876	+.032	+1.10	1920	+.083	+1.23
1836	-.027	+.30	1880	+.038	+1.14	1924	+.086	+1.22
1840	-.022	+.43	1884	+.043	+1.16			

No. 4178.  $\rho$  Ophiuchi.

This is W. H., II, 19. The magnitudes are 5<sup>m</sup>.2 and 5<sup>m</sup>.7. The stars are relatively very nearly fixed. The following expression gives approximately the reduction of the components to the mean, the upper signs corresponding to the principal star.

$$\Delta\alpha = \mp 0''.12 \mp .0003 (\tau - 1900) \quad \Delta\delta = \pm 1''.72$$

The effective pointings of the early observers of this star probably relate to the mass; and they may be less nearly coincident with the principal star than with the mean of the two components. Later observers more often give results for both components. It is difficult to decide on the best course in a case like this; but it has been assumed that the earlier observers pointed on the mean; means were taken where observers give both components; and the foregoing corrections were employed where a single component is specified. Thus the catalogue-place is intended to correspond to the mean of the two stars, though this can be considered no better than a fair approximation to the truth.

We have for the two components in 1900:

$$\begin{array}{l} \text{North star } 5^m.7: 16^h 19^m 35^s.229 - 0^m.0011 - 23^\circ 12' 57''.49 - 0''.021 \\ \text{South star } 5.2: \quad \quad \quad 35.253 - .0005 \quad \quad \quad 13 \quad 0.93 - .021 \end{array}$$



No. 4203.  $\lambda$  Ophiuchi.  $\Sigma$  2055.

The respective magnitudes of this close binary are  $4^m.0$  and  $6^m.1$ . As the distances have always been less than  $2''$  (usually less than  $1''.6$ ) the "mass" of light has been observed by all of the meridian-observers. Various orbits have been computed, showing that the period is somewhere between 200 and 400 years. Since the form of the orbit is still very uncertain, no attempt has been made to discuss the meridian-observations in conformity with some adopted orbit which shall determine the relative curvature of the path. But in the determination of  $\mu$  and  $\mu'$ , terms have been added to deduce empirically the effect of curvature of the adopted point of observation, so far as this effect can be represented by a term dependent on the square of the time. Accordingly, for the secular variation and for the centennial variation in p.m., the following special terms have been derived:

$$\text{in R. A., } - .0020 \qquad \text{in decl., } + .004$$

These terms have not been adopted, although in R. A. the term is more than twice as large as its probable error. Prediction for this star must be regarded as very uncertain, since it may be surmised that the center of gravity is probably not far from the mean between the two stars, while the point observed must be very near the brighter star.

No. 4246.  $\zeta$  Herculis c.g.  $\Sigma$  2084.

The adopted magnitudes of the two components are  $2^m.8$  and  $6^m.5$ . In determining the position of the center of gravity of this rapid binary, Doberck's orbit (*A.N.*, 144, s. 241) has been employed. This makes the period 34.5 years. The determination of relative masses of the two components is more definite in this than in most instances. If we call the mass of the brighter star unity, that of the fainter comes out.

$$\begin{aligned} \text{Mass of companion, } & .39 \pm .04 \text{ from right-ascension} \\ \text{Mass of companion, } & .50 \pm .06 \text{ from declination} \\ \text{Adopted, } & .43 \pm .04 \end{aligned}$$

The effect of the periodic term in the proper-motion is very clearly revealed in the residuals formed from the meridian-observations. If to the positions of the center of gravity at various epochs, computed from the catalogue-place, we add the numbers in the following table, we shall have the positions of the bright star for the corresponding dates. Multiplying the numbers of the table by  $-1.33$ , and adding as before, we have the position of the fainter star.

Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .
	<sup>s</sup>	<sup>"</sup>		<sup>s</sup>	<sup>"</sup>		<sup>s</sup>	<sup>"</sup>
1870	+ .007	+ .32	1890	- .034	- .16	1910	- .015	+ .32
1871	+ .003	+ .34	1891	- .031	- .19	1911	- .018	+ .29
1872	- .001	+ .35	1892	- .028	- .21	1912	- .021	+ .27
1873	- .005	+ .34	1893	.024	- .23	1913	- .025	+ .24
1874	- .009	+ .34	1894	- .019	- .24	1914	- .027	+ .22
1875	- .013	+ .32	1895	- .012	- .23	1915	- .030	+ .19
1876	- .016	+ .31	1896	- .006	- .22	1916	- .032	+ .15
1877	- .020	+ .29	1897	+ .003	- .17	1917	- .034	+ .12
1878	- .023	+ .26	1898	+ .009	- .10	1918	- .035	+ .08
1879	- .026	+ .23	1899	+ .015	- .02	1919	- .036	+ .04
1880	- .029	+ .20	1900	+ .017	+ .09	1920	- .037	+ .01
1881	- .031	+ .17	1901	+ .017	+ .17	1921	- .037	- .03
1882	- .033	+ .14	1902	+ .016	+ .23	1922	- .037	- .07
1883	- .034	+ .10	1903	+ .013	+ .28	1923	- .036	- .10
1884	- .036	+ .06	1904	+ .009	+ .31	1924	- .034	- .14
1885	- .037	+ .02	1905	+ .005	+ .33	1925	- .032	- .17
1886	- .037	- .02	1906	+ .001	+ .34			
1887	- .037	- .05	1907	- .003	+ .34			
1888	- .037	- .09	1908	- .007	+ .33			
1889	- .035	- .12	1909	- .011	+ .33			

**No. 4376.  $\delta$  Herculis.  $\Sigma$  3127.**

The motion of the companion relative to the principal star is evidently rectilinear. We have the following expressions:

$$\Delta\alpha = -^{\circ}202 - ^{\circ}0059 (T - 1900)$$

$$\Delta\delta = -14''.56 + ''160 (T - 1900)$$

Whence for 1900:

$$8^m \text{ Comp. } 17^h 10^m 55^s.233 - ^{\circ}0077 + 24^{\circ} 57' 10''.39 - ''003.$$

**No. 4419.  $\rho$  Herculis.  $\Sigma$  2161.**

The magnitudes are  $4^m.6$  and  $5^m.5$ . The early observers neglected the fainter star, so that the p.m. computed independently for that star would not be very accurate. The micrometric difference gives:

$$\Delta\alpha = -^{\circ}252 - ^{\circ}0004 (T - 1900)$$

$$\Delta\delta = +2''.67 + ''006 (T - 1900)$$

whence for 1900:

$$5^m.5 \text{ Comp. } 17^h 20^m 13^s.709 - ^{\circ}0036 + 37^{\circ} 14' 18''.32 + ''002.$$

**Nos. 4556 and 4557. 95 Herculis.  $\Sigma$  2264.**

The position of the mean was computed with the probable errors indicated for each component. Then by means of the micrometrical measurements, assuming the stars relatively fixed, we have  $\Delta\alpha = 0^{\circ}.437$ ;  $\Delta\delta = 1''.11$ . From these differences the positions of the separate stars are derived.

**No. 4571. 70 Ophiuchi c.g.=Br 2271.  $\Sigma$  2272.**

The annual parallax may be taken as  $0''.15$ . This binary system has a period of 88.4 years according to See (*Stellar Systems*), whose orbit is adopted in determining the relation of the center of gravity of the two components, which are of magnitudes  $4^m.3$  and  $5^m.8$ . Both stars have been well observed; but it seemed well to reduce the observations of the fainter star to the places of the brighter star by means of the differences resulting from the adopted orbit. This done, it is found that the proportional part of the entire distance,  $\rho$  (reckoning from the brighter, toward the fainter star), at which the center of gravity is situated is,

from meridian-observations of R. A.,  $.48 \pm .02$

from meridian-observations of decl.,  $.42 \pm .03$

The mean,  $.45 \rho$ , has been adopted as the most probable result, since the result from declinations, though having a larger probable error, is less likely to suffer from systematic errors due to the proximity of the two stars. Thus the mass of the fainter star in terms of that of the brighter is .82. It does not seem probable, in any case, that the fainter star has a larger mass than the brighter. The following table gives quantities which, added to the positions computed from the catalogue-place of the center of gravity, will give the predicted place of the principal star. Multiplying the tabular numbers by  $-1.22$ , and adding as before, gives the corresponding positions of the fainter component.

Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .	Date.	$\Delta\alpha$ .	$\Delta\delta$ .
	s	"		s	"		s	"
1816	+ .011	+ .81	1856	- .176	+ 1.10	1892	+ .036	- .86
1820	- .027	+ 1.24	1860	- .171	+ .87	1896	+ .053	- .50
1824	- .061	+ 1.53	1864	- .161	+ .60	1900	+ .047	+ .16
1828	- .091	+ 1.70	1868	- .147	+ .33	1904	+ .014	+ .76
1832	- .117	+ 1.78	1872	- .128	+ .04	1908	- .024	+ 1.21
1836	- .139	+ 1.80	1876	- .104	- .24	1912	- .059	+ 1.50
1840	- .154	+ 1.74	1880	- .075	- .52	1916	- .090	+ 1.67
1844	- .166	+ 1.64	1884	- .040	- .75	1920	- .116	+ 1.76
1848	- .174	+ 1.50	1888	- .002	- .90	1924	- .138	+ 1.78
1852	- .177	+ 1.32						

Nos. 5433 and 5434. 61 Cygni. Br 2744-5.  $\Sigma$  2758.

The magnitudes of the components are assumed to be  $5^m.5$  and  $6^m.1$ . Although the micrometrical measures of this double star are numerous and accurate, the change in position angle is so small that it does not suffice for the computation of an orbit that is even fairly approximate. It might be assumed, however, with much plausibility, that the observed arc can be accurately represented by a parabola, following the precedent adopted with first orbits of comets. But in the present instance it has been found that not even this device would be of any service, since the direction of periastron is still indeterminate. Accordingly, as a last resort, and in order to provide more reliable means for predicting the positions of the two components, the combined effect of curvature of path and variation of proper-motion has been computed from the meridian-observations in each coördinate, assuming this effect to be proportional to the square of the time-interval,  $\tau$ , expressed in centuries, from the epoch 1875. We have for  $\frac{1}{2} \frac{d^2a}{dt^2}$ :

	R. A.	R. A.	Decl.	
61 <sup>1</sup> Cygni	(+ 500389 =)	+ 0460	- 0016	(A)
61 <sup>2</sup> Cygni	(- 00129 =)	- 0152	+ 0204	

Taking these as the basis of further computations, we may gain some idea of the relative masses of the component stars of this system in the following manner. Let the unit of mass be that of the brighter star, and  $a$ , the mass of the fainter star. Dr. Bergstrand determines the coefficient of the centennial term in  $\tau^2$  for the differences in declination between the two stars to be +0134; and the corresponding term in right-ascension, -0460. (*Roy. Soc. Upsala, Ser. IV. Vol. I, No. 3.*) These values are probably far more accurate than those which are derived from the meridian-observations, +0220 and -0612 respectively. The ratio of Dr. Bergstrand's terms, -3.43, may be taken as a known quantity, therefore, so that if, for orbital effect alone,  $b$  denotes the coefficient of  $\tau^2$  in declination-equations of the fainter star, then -3.43  $b$  will be the corresponding coefficient for right-ascension. Further, let  $\Delta\mu_0$  denote the centennial variation of the proper-motion upon a great circle, due to assumption of uniform rectilinear motion (see Introduction, as well as the note on Groombridge 1830, No. 3112), then we shall have the following equations:

$$\left. \begin{aligned} \text{From 61}^1 \text{ R. A., } 0.796 \frac{\Delta\mu_0}{2} + 3.43 a b &= + 0460 \\ \text{61}^2 \text{ R. A., } 0.796 \frac{\Delta\mu_0}{2} - 3.43 b &= - 0152 \\ \text{61}^1 \text{ Decl., } 0.605 \frac{\Delta\mu_0}{2} - 1.00 a b &= - 0016 \\ \text{61}^2 \text{ Decl., } 0.605 \frac{\Delta\mu_0}{2} + 1.00 b &= + 0204 \end{aligned} \right\} \text{(B)}$$

The solution of these equations leads to the following values of the unknowns:

$$\frac{\Delta\mu_0}{2} = + 0163 \quad a = + 1.16 \quad b = + 00841 \quad ab = + 00975$$

Varying the assumptions adopted in the foregoing, values of  $a$  and  $\frac{\Delta\mu_0}{2}$  similar to these are derived, and it is found that a value of  $a$  less than unity is not inconsistent with the data. One may rather confidently conclude that neither star has twice the mass of the other, and no great error will be committed if it be assumed that the masses are equal. The comparatively small difference of magnitude of the two components is favorable to this assumption; and there is always a probability in such cases that the mass of the brighter star is not less than that of the fainter — a probability which has been sustained in the computations for this Catalogue in every instance where the data were really adequate to a decision. Accordingly, the masses are here assumed to be equal. This being the case, one-half of the observed effect of perspective upon the proper motion of the center of gravity in a great circle will be found in the mean of the square-terms in right-ascension and declination respectively, already determined (A).



$$\begin{aligned}\frac{1}{2} \Delta\mu_0, \text{ from R. A.,} &= \frac{+''046 - ''015}{2 \times .796} = +''0194 \\ \text{from decl.,} &= \frac{-''002 + ''020}{2 \times .605} = +''0155\end{aligned}$$

The mean is  $+''0174$ , which chances to agree very closely with that derived from the equations (B). We may, therefore, adopt as the perspective effect observed in the meridian-observations:  $\Delta\mu_0 = +''034$ , with a probable error of perhaps  $\pm ''020$ .

$\Delta\mu_0$  may also be computed according to the formula of Seeliger (*A.N.*, Bd. 154, s. 67. See also previous note on Groomb 1830). For this purpose let us assume:  $\mu_0 = 5''.20$ ;  $\pi = ''34$ ;  $l = -62$  km. The latter quantity is the result for motion in the line of sight derived at the Yerkes Observatory, in kind compliance with the author's request. This will give us  $\Delta\mu_0 = +'.022$ , in very fair agreement with that derived from meridian-observations. We may assume that this result is entitled to twice the weight of  $\Delta\mu_0$  from meridian-observations, and this leads to the value of  $\Delta\mu_0$  (the perspective effect) finally adopted:

$$\Delta\mu_0 = +''026 \quad \Delta\mu = +''021 \quad \Delta\mu' = +''016$$

This means that the proper-motion of 61 Cygni is now increasing at about this rate ( $+''026$ ) per century, due to the perspective effect of approach upon the angular motion in a great circle of the projected uniform rectilinear motion of the point midway between the two stars. Combining this with the effect of orbital motion as determined by Dr. Bergstrand, on the assumption that one-half the effect is applicable to each star (and remembering that the effect on "secular variation" is twice this amount), we have:

	$\Delta\mu$	$\Delta\mu'$
61 <sup>1</sup> Cygni, effect of perspective term	$+''0206$	$+''0158$
61 <sup>1</sup> Cygni, effect of orbital term	$+ .0460$	$- .0134$
	$+''067 = +'.0056$	$+ .002$
61 <sup>2</sup> Cygni, effect of perspective term	$+''0206$	$+''0158$
61 <sup>2</sup> Cygni, effect of orbital motion	$- .0460$	$+ .0134$
	$- .025 = -'.0022$	$+ .029$

It will be remembered that these quantities were determined directly from the meridian-observations at the outset (equations A giving one-half these terms). We therefore have the following comparison between the values directly determined from the meridian-observations and those resulting from adjustment, as above, and adopted:

	Direct	Adjusted
61 <sup>1</sup> Cygni. $\Delta\mu =$	$+''092$	$+''067$
61 <sup>1</sup> Cygni. $\Delta\mu' =$	$-.003$	$+ .002$
61 <sup>2</sup> Cygni. $\Delta\mu =$	$-.030$	$-.025$
61 <sup>2</sup> Cygni. $\Delta\mu' =$	$+ .041$	$+ .029$

The agreement appears to be fairly satisfactory, and the secular variations and values of  $\Delta\mu$  and  $\Delta\mu'$ , as they would have otherwise appeared in the Catalogue, are corrected for perspective and orbital effects as herein adopted.

#### Nos. 5832 and 5833. $\Sigma$ 2922.

For 1900 we have  $5^{\text{M}}9-6^{\text{M}}7$ ,  $22''$ ,  $185^\circ$  for  $\Sigma$  2922. There is a companion of B,  $10^{\text{M}} 28'' 155^\circ$ . The two principal stars differ little in right-ascension. The meridian difference agrees badly with the result from micrometrical measures. In order to produce better agreement, the solution of the equations in right-ascension for No. 5832 (the fainter star, which is of  $6^{\text{M}}7$ ) has been somewhat forced by the rejection of Br'y., Pi., Tay., and Paris<sub>45</sub>.

**No. 6172. Br. 3198. 85 Pegasi.  $\beta$  733.**

This is a binary with a period of about 25.7 years, according to Burnham, whose orbit is here adopted for special discussion of irregular proper-motion. The magnitudes of the components are 6<sup>m</sup>.0 and 11<sup>m</sup>.0 respectively. The meridian-observations have a total weight of only 22.5 in R. A., and of 25.2 in declination, much less than the weights for any other binary treated in these notes. They give for the proportional distance of the center of gravity to the entire distance from the bright to the faint star:

From right-ascensions	0.51 $\pm$ .16
From declinations	0.84 $\pm$ .20
Mean by weights	0.64 $\pm$ .13

This corresponds to a mass for the faint star of 1.8—the bright star having been taken as the unit. The aspect of these numbers lends plausibility to the hypothesis of greater mass for the fainter star. But the meridian-observations are not entirely inconsistent with the hypothesis of equality of mass, as may be supposed from the probable error. There is no other instance in which it has been possible to demonstrate with a strong preponderance of probability that the fainter component of a binary star has the greater mass, while the strong natural inference must be in favor of greater mass for the brighter component, especially when the discrepancy in brightness is very great, as in the present instance. Accordingly, it is here assumed that the two masses are sensibly equal and that the center of gravity is halfway between the two stars. The Catalogue gives the position of the center of gravity. Adding to this position quantities derived from the following table, we have for the respective dates the positions of the brighter star. In like manner the position of the fainter star is obtained from this table after reversal of signs.

Date.		$\Delta\alpha.$	$\Delta\delta.$	Date.		$\Delta\alpha.$	$\Delta\delta.$
		<sup>s</sup>	"			<sup>s</sup>	"
1880	1905.7	+ .024	— .12	1895	1920.7	+ .004	+ .38
1881	1906.7	+ .019	— .16	1896	1921.7	+ .008	+ .36
1882	1907.7	+ .012	— .18	1897	1922.7	+ .012	+ .34
1883	1908.7	+ .001	— .18	1898	1923.7	+ .016	+ .30
1884	1909.7	— .006	— .12	1899	1924.7	+ .018	+ .26
1885	1910.7	— .014	— .04	1900	1925.7	+ .022	+ .21
1886	1911.7	— .020	+ .08	1901		+ .024	+ .16
1887	1912.7	— .020	+ .18	1902		+ .026	+ .10
1888	1913.7	— .020	+ .24	1903		+ .027	+ .04
1889	1914.7	— .019	+ .30	1904		+ .027	— .02
1890	1915.7	— .016	+ .34	1905		+ .026	— .08
1891	1916.7	— .012	+ .38	1906		+ .022	— .13
1892	1917.7	— .009	+ .39				
1893	1918.7	— .005	+ .40				
1894	1919.7	.000	+ .40				

## APPENDIX III.

SYSTEMATIC CORRECTIONS AND WEIGHTS.





## APPENDIX III.

### SYSTEMATIC CORRECTIONS AND WEIGHTS.

The principal points concerning the formation of the systematic corrections and weights contained in this Appendix have been explained in the articles upon these subjects contained in Volume XXIII of the *Astronomical Journal* (Nos. 534, 536, 540, 541, 545, 549, and 550). There has been frequent occasion to allude to these quantities in the Introduction to the present volume. The Systematic Corrections herein contained are the result of an extension and thorough revision of the tables contained in Nos. 549 and 550 of the *Astronomical Journal*.

The tables which follow give :

$\Delta a_\alpha$ . Systematic corrections in right-ascension that vary with the argument,  $\alpha$ , are given in the first table. Bracketed with  $\Delta a_\alpha$  is sometimes given  $\Delta' a_\alpha$ , the coefficient of a term of correction,  $\Delta' a_\alpha \operatorname{tg} \delta$ . The distinction between these quantities is that  $\Delta a_\alpha$  is a correction composed of a constant in combination with a term periodic with right-ascension. At any particular value of  $\alpha$  it is constant for all declinations. This may be termed the equinox-correction. But in some cases there is associated with this a term which might be called the  $\Delta' a_\alpha$  term. It is not only periodic in  $\alpha$ , but at the same time varies with the declination — more commonly as  $\operatorname{tg} \delta$ . Among other causes the term in  $\Delta' a_\alpha$  may be attributed to an annual periodic error in determining the polar point of the instrument, so that, in reducing transits there is an outstanding error in them of the form,  $n \operatorname{tg} \delta$ , with  $n$  having an annual period. In some cases there may be a sensible error of annual period in determination of collimation. This would produce an error in the transits of the approximate form,  $\Delta' a_\alpha \left( \operatorname{tg} \frac{P}{2} - \operatorname{tg} \frac{p}{2} \right)$ , in which  $p$  is the polar distance of a given star, and  $P$  is the mean polar distance of the clock stars employed.

$\Delta a_\delta$ . Systematic corrections in right-ascension that vary with the declination alone are given in the table next following that for  $\Delta a_\alpha$ . They may be due to irregularities of pivots, personal errors of the observers, errors of illumination, and a variety of causes. For convenience of interpolation,  $\Delta a_\delta \cos \delta$  is given in the tables for declinations higher than  $80^\circ$ . Between  $+80^\circ$  and  $-80^\circ$   $\Delta a_\delta$  is given, as it is to be applied to observed right-ascension without multiplication by  $\cos \delta$ .

$\Delta a_M$ . At the foot of the pages giving  $\Delta a_\delta$  are given the systematic corrections for Magnitude-equations,  $\Delta a_M$ , of the several catalogues. The values of  $\Delta a_M$  are probably more reliable for stars brighter than  $7^m$  than they are for fainter stars; but they should still be good approximations in most cases down to  $8^m$ , or fainter. Values of  $\Delta a_M$  marked \* are not the result of observation, but are mean values computed from  $-0.0069 (M-3.5)$ .

The total correction to be applied to the right-ascension found in the original catalogues of observation is :  $\Delta a = \Delta a_\alpha + \Delta a_\delta + \Delta a_M$ , where  $\Delta a_\alpha$  may be taken as  $\Delta a_\alpha + \Delta' a_\alpha \operatorname{tg} \delta$ , whenever the latter term becomes sensible.

Corrections to the right-ascensions of the Zones of the *Astronomische Gesellschaft* follow in the next table. These corrections were derived with very great care and are based upon more than 2,900 quasi-standards. In determination of  $\Delta a_M$  beyond seventh magnitude, much assistance was derived from the comparisons of the A. G. zones with each other and with Pulk 75, instituted by Dr. Auwers. (*Ast. Nach.*, Vol. 161, Nos. 3842-3-4.)

## DECLINATIONS.

$\Delta\delta_a$ . Corrections in declinations that vary with the right-ascension alone as an argument are given next after the tables for A. G. zones — right-ascension. Corrections of this form may be attributed to annual effects of temperature, etc., upon the instrument and its environment, neglected variation of latitude, and effect of faulty astronomical constants adopted in reduction from apparent place to epoch of catalogue, especially in earlier times.

$\Delta\delta_s$ . Systematic corrections in declination, with the argument declination, are found in the next table. In the case of Br 1755 the arguments  $5^\circ$  apart do not suffice. A special table of corrections,  $\Delta\delta_s$ , for Br 1755 appears under Remark (11) at the end of these tables.  $\Delta\delta_s$  is easily accounted for through the effects of insufficiently corrected errors of graduation, flexure, refraction, etc. In some cases these curves have been analyzed and attributed to their probable sources (see, especially, *Ast. Jour.*, Vol. XXIII, pp. 120-122, 126, 157-162, 210, etc.).

Then follow corrections in declination of the Zone-Catalogues of the *Astronomische Gesellschaft*. The full systematic correction in declination is:  $\Delta\delta = \Delta\delta_a + \Delta\delta_s$ .

Next follow tables of weights that have been employed in the computations for this Catalogue. These were prepared from the probable errors of the residuals found in solution from the standard stars. For the catalogues of highest precision, only the principal standard stars were employed. In computing and successively revising the weights, particular attention was devoted to the progressive relation of the weights to number of observations. It has been assumed that there is a probable error ( $e_0$ ) that is not affected by the number of observations but is inherent in the instrument, observer, or environment; or what is much the same thing, this part of probable error may be considered to be due in part to the practical impossibility of determining all the minor peculiarities of curves of systematic correction. This amounts to the assumption that when a certain number of observations is reached in a series of observations, the probable error is no longer sensibly diminished by increase in the number of observations. Usually, the weaker the catalogue, the smaller this maximum number of observations will be. Combined with this is the ordinary probable error of observation ( $e_1$ ) which diminishes proportionally with  $\frac{1}{\sqrt{n}}$ ,  $n$  being the number of observations. Obviously the probable error ( $e_c$ ) of the catalogue-place will be:

$$e_c = \sqrt{(e_0)^2 + \frac{e_1^2}{n}}.$$

In the solution of such equations for determining  $e_0$  and  $e_1$ , it was customary to substitute  $\frac{e_1}{r}$  for  $e_0$ , in which  $r$  represents a trial ratio for  $\frac{e_1}{e_0}$ , such as 1,  $1\frac{1}{2}$ , .....4, 5, 6.....8. Then by means of auxiliary tables that value of  $r$  is found which best harmonizes with the probable errors found for the residuals arranged in groups according to the number of observations. The adopted probable error of the unit of weight is  $\pm''30$ , repeatedly verified as the computation progressed.

For convenience in the formation of normal equations for determination of  $\Delta a_0$  and  $\Delta \mu_0$ , etc., only the denominations of weight represented in the left-hand columns of these tables were used. This permits the formation of auxiliary tables in compact forms that greatly expedite the formation of the normal equations.

When the zenith-distance of a star observed at a given observatory is more than  $72^\circ$ , it has been customary in the computations for this Catalogue to multiply the weights for right-ascensions, as given in the tables, by certain factors presently to be given. In like manner factors are adopted for reducing the weights in declination, beginning with  $65^\circ$  of zenith distance. The adopted factors are:



## Z. D. FACTORS.

Right-Ascension		Declination		Right-Ascension		Declination	
Z. D.	Factor	Z. D.	Factor	Z. D.	Factor	Z. D.	Factor
72°	0.9	65°	0.9	78°	0.6	73°	0.6
73	0.9	66	0.9	79	0.5	74	0.5
74	0.8	67	0.8	80	0.4	75	0.5
75	0.8	68	0.8	81	0.25	76	0.4
76	0.7	69	0.8	82	0.1	77	0.4
77	0.7	70	0.7			78	0.3
		71	0.7			79	0.2
		72	0.6			80	0.1

These weights can only be regarded as rough estimates. For many of the catalogues they are probably too large. For a few catalogues, indicated in the notes, special factors were employed.

The body of the tables contains under the designation of each catalogue the number of observations that corresponds to the weight found on the same line at the extreme left.

It is scarcely necessary to say that these weights are relative only. They are based upon the assumption that the system of this Catalogue, in comparison with an individual catalogue of observation, is nearly absolute.

Finally, come the Remarks, or Notes, which have been limited to the cases most in need of explanation. These are referred to in the tables by numerals inclosed in parentheses.

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha$ 

	Br 1755 R (1)		Pi 00		Groomb 10		Kön 15	Grw 15	Dpt 15 R (4)
h	s	s	s	s	s	s	s	s	s
0	-.065	-.019 tg $\delta$ *	+.101	+.042 tg $\delta$	+.035	-.027 tg $\delta$	-.082	-.025	+.034
1	-.079	-.012	+.103	+.027	+.046	-.037	-.083	-.022	+.034
2	-.095	-.005	+.106	+.009	+.054	-.045	-.084	-.018	+.032
3	-.098	+.004	+.110	-.013	+.058	-.049	-.084	-.015	+.027
4	-.093	+.011	+.115	-.037	+.058	-.050	-.085	-.011	+.021
5	-.087	+.020	+.119	-.060	+.055	-.048	-.085	-.007	+.013
6	-.081	+.024	+.124	-.083	+.047	-.042	-.085	-.004	+.004
7	-.077	+.027	+.128	-.107	+.036	-.034	-.085	-.002	-.005
8	-.077	+.031	+.132	-.127	+.023	-.023	-.085	.000	-.014
9	-.083	+.031	+.134	-.135	+.008	-.010	-.084	.000	-.021
10	-.091	+.029	+.136	-.129	-.007	+.003	-.084	-.001	-.027
11	-.096	+.025	+.136	-.107	-.022	+.016	-.083	-.002	-.032
12	-.096	+.019	+.135	-.084	-.035	+.027	-.082	-.005	-.034
13	-.090	+.012	+.133	-.018	-.046	+.037	-.081	-.008	-.034
14	-.085	+.005	+.130	+.053	-.054	+.045	-.080	-.012	-.032
15	-.083	-.004	+.126	+.065	-.058	+.049	-.080	-.015	-.027
16	-.081	-.011	+.121	+.070	-.058	+.050	-.079	-.019	-.021
17	-.079	-.020	+.117	+.071	-.055	+.048	-.079	-.023	-.013
18	-.076	-.024	+.112	+.071	-.047	+.042	-.079	-.026	-.004
19	-.071	-.027	+.108	+.071	-.036	+.034	-.079	-.028	+.005
20	-.069	-.031	+.104	+.071	-.023	+.023	-.079	-.030	+.014
21	-.063	-.031	+.102	+.070	-.008	+.010	-.080	-.030	+.021
22	-.059	-.029	+.100	+.064	+.007	-.003	-.080	-.029	+.027
23	-.059	-.025	+.100	+.042	+.022	-.016	-.081	-.028	+.032
24	-.065	-.019	+.101	+.042	+.035	-.027	-.082	-.025	+.034

	Kön 20	Schw 28		Cape 30	Camb 30	Wrot 30		St H 30
h	s	s	s	s	s	s	s	s
0	-.034	.000	-.015 tg $\delta$	+.022	+.031	+.038	+.010 tg $\delta$	-.059
1	-.034		-.014	+.031	+.030	+.038	-.014	-.058
2	-.034		-.023	+.039	+.028	+.038	-.043	-.056
3	-.034		-.025	+.045	+.025	+.038	-.072	-.054
4	-.034		-.025	+.048	+.023	+.038	-.095	-.051
5	-.034	.000	-.023	+.050	+.020	+.038	-.108	-.047
6	-.034	.000	-.020	+.049	+.017	+.038	-.107	-.044
7	-.034		-.016	+.045	+.014	+.038	-.092	-.040
8	-.034		-.010	+.039	+.012	+.038	-.064	-.037
9	-.034		-.004	+.032	+.010	+.038	-.029	-.035
10	-.034		+.003	+.023	+.009	+.038	+.007	-.033
11	-.034	.000	+.009	+.013	+.009	+.052	+.039	-.033
12	-.034	.000	+.015	+.004	+.009	+.058	+.062	-.033
13	-.034		+.014	-.005	+.010	+.058	+.073	-.034
14	-.034		+.023	-.013	+.012	+.055	+.074	-.036
15	-.034		+.025	-.019	+.015	+.050	+.066	-.038
16	-.034		+.025	-.022	+.017	+.042	+.054	-.041
17	-.034	.000	+.023	-.024	+.020	+.037	+.043	-.045
18	-.034	.000	+.020	-.023	+.023	+.033	+.036	-.048
19	-.034		+.016	-.019	+.026	+.027	+.033	-.052
20	-.034		+.010	-.013	+.028	+.024	+.033	-.055
21	-.034		+.004	-.006	+.030	+.024	+.035	-.057
22	-.034		-.003	+.003	+.031	+.026	+.033	-.059
23	-.034		-.009	+.013	+.031	+.031	+.026	-.059
24	-.034	.000	-.015	+.022	+.031	+.038	+.010	-.059

\* Applicable N. of  $\delta$ , + 60°.

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_a$ 

	Äbo 30	Grw 30		Dpt 30	Cape 33	Madr 35		Edinb 40
h	s	s	s	s	s	s	s	s
0	+0.014	-0.077	+0.014 tg $\delta$	-0.016	+0.006	-0.089	+0.009 tg $\delta$	-0.012
1	+0.014	-0.070	+0.014	-0.014	+0.006	-0.082	+0.003	-0.023
2	+0.015	-0.060	+0.014	-0.011	+0.007	-0.071	-0.003	-0.026
3	+0.016	-0.050	+0.014	-0.010	+0.008	-0.059	-0.009	-0.019
4	+0.017	-0.044	+0.014	-0.009	+0.011	-0.048	-0.014	-0.017
5	+0.017	-0.044	+0.014	-0.009	+0.014	-0.040	-0.019	-0.019
6	+0.018	-0.050	+0.011	-0.010	+0.017	-0.037	-0.022	-0.026
7	+0.018	-0.060	+0.005	-0.011	+0.021	-0.039	-0.024	-0.038
8	+0.018	-0.072	-0.007	-0.013	+0.025	-0.044	-0.024	-0.048
9	+0.018	-0.083	-0.022	-0.016	+0.028	-0.050	-0.022	-0.049
10	+0.018	-0.090	-0.030	-0.019	+0.031	-0.056	-0.019	-0.037
11	+0.017	-0.091	-0.022	-0.022	+0.034	-0.059	-0.015	-0.028
12	+0.016	-0.085	-0.005	-0.025	+0.035	-0.059	-0.009	-0.022
13	+0.015	-0.074	+0.007	-0.027	+0.035	-0.056	-0.003	-0.019
14	+0.014	-0.060	+0.010	-0.030	+0.035	-0.051	+0.003	-0.017
15	+0.013	-0.046	+0.001	-0.031	+0.033	-0.045	+0.009	-0.017
16	+0.013	-0.037	-0.018	-0.032	+0.031	-0.042	+0.014	-0.019
17	+0.012	-0.033	-0.035	-0.032	+0.028	-0.042	+0.019	-0.023
18	+0.012	-0.036	-0.042	-0.031	+0.024	-0.047	+0.022	-0.027
19	+0.011	-0.045	-0.038	-0.030	+0.020	-0.056	+0.024	-0.027
20	+0.011	-0.056	-0.029	-0.028	+0.016	-0.067	+0.024	-0.023
21	+0.012	-0.068	-0.018	-0.025	+0.013	-0.078	+0.022	-0.015
22	+0.012	-0.077	-0.005	-0.022	+0.010	-0.086	+0.019	-0.007
23	+0.013	-0.080	+0.008	-0.019	+0.008	-0.090	+0.015	-0.007
24	+0.014	-0.077	+0.014	-0.016	+0.006	-0.089	+0.009	-0.012

	Arm 40	Cape 40	Grw 40	Grw 45	Radcl 45		Pulk 45
h	s	s	s	s	s	s	s
0	+0.054	-0.004	+0.094	+0.040	+0.023	+0.012 tg $\delta$	+0.019
1	+0.053	-0.007	+0.086	+0.035	+0.015	+0.011	+0.019
2	+0.053	-0.009	+0.078	+0.029	+0.005	+0.009	+0.019
3	+0.052	-0.011	+0.070	+0.022	-0.007	+0.005	+0.020
4	+0.052	-0.013	+0.063	+0.016	-0.020	+0.002	+0.020
5	+0.052	-0.014	+0.058	+0.016	-0.034	-0.001	+0.021
6	+0.052	-0.014	+0.054	+0.005	-0.046	-0.005	+0.022
7	+0.052	-0.014	+0.052	+0.001	-0.057	-0.008	+0.023
8	+0.053	-0.013	+0.052	-0.001	-0.066	-0.010	+0.024
9	+0.053	-0.011	+0.054	-0.002	-0.072	-0.012	+0.025
10	+0.054	-0.009	+0.058	-0.001	-0.074	-0.014	+0.026
11	+0.054	-0.007	+0.064	+0.002	-0.073	-0.013	+0.026
12	+0.054	-0.004	+0.071	+0.006	-0.068	-0.012	+0.027
13	+0.055	-0.001	+0.079	+0.011	-0.060	-0.011	+0.027
14	+0.056	+0.001	+0.087	+0.017	-0.050	-0.009	+0.026
15	+0.056	+0.003	+0.094	+0.024	-0.038	-0.005	+0.026
16	+0.056	+0.005	+0.101	+0.030	-0.025	-0.002	+0.025
17	+0.056	+0.006	+0.107	+0.036	-0.012	+0.001	+0.024
18	+0.056	+0.006	+0.111	+0.041	+0.001	+0.005	+0.023
19	+0.056	+0.006	+0.113	+0.045	+0.012	+0.008	+0.022
20	+0.055	+0.005	+0.113	+0.047	+0.021	+0.010	+0.021
21	+0.055	+0.003	+0.111	+0.048	+0.026	+0.012	+0.020
22	+0.054	+0.001	+0.107	+0.047	+0.029	+0.014	+0.019
23	+0.054	-0.001	+0.101	+0.044	+0.028	+0.013	+0.019
24	+0.054	-0.004	+0.094	+0.040	+0.023	+0.012	+0.019



SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha$ 

	Paris 45	Stgo 50	Gi Z 50	Cape 50	Grw 50	Pulk 55 *
h	s	s	s	s	s	s
0	+0.027	+0.012	-0.010 Sec. $\delta$	+0.026	+0.011	+0.007
1	+0.025	+0.009	-0.009	+0.026	+0.007	+0.007
2	+0.023	+0.007	-0.008	+0.024	+0.002	+0.007
3	+0.022	+0.004	-0.006	+0.023	-0.003	+0.007
4	+0.020	+0.001	-0.004	+0.020	-0.007	+0.007
5	+0.019	-0.001	-0.001	+0.018	-0.011	+0.007
6	+0.018	-0.004	+0.002	+0.016	-0.015	+0.007
7	+0.018	-0.006	+0.004	+0.014	-0.017	+0.007
8	+0.018	-0.007	+0.006	+0.012	-0.018	+0.007
9	+0.019	-0.007	+0.008	+0.011	-0.018	+0.007
10	+0.020	-0.007	+0.009	+0.010	-0.017	+0.007
11	+0.021	-0.005	+0.010	+0.009	-0.015	+0.007
12	+0.023	-0.004	+0.010	+0.010	-0.011	+0.007
13	+0.025	-0.001	+0.009	+0.010	-0.007	+0.007
14	+0.027	+0.001	+0.008	+0.012	-0.003	+0.007
15	+0.028	+0.004	+0.006	+0.013	+0.002	+0.007
16	+0.030	+0.007	+0.004	+0.016	+0.007	+0.007
17	+0.031	+0.010	+0.001	+0.018	+0.011	+0.007
18	+0.032	+0.012	-0.002	+0.020	+0.014	+0.007
19	+0.032	+0.014	-0.004	+0.022	+0.017	+0.007
20	+0.032	+0.015	-0.006	+0.024	+0.018	+0.007
21	+0.031	+0.015	-0.008	+0.025	+0.018	+0.007
22	+0.030	+0.015	-0.009	+0.026	+0.017	+0.007
23	+0.029	+0.014	-0.010	+0.027	+0.014	+0.007
24	+0.027	+0.012	-0.010	+0.026	+0.011	+0.007

	Carr 55	Stgo 55	Wash 60	Cape 60	Grw 60	Stgo 60
h	s	s	s	s	s	s
0	000	+0.065	+0.030	+0.035	+0.034	+0.065
1		+0.057	+0.022	+0.031	+0.032	+0.057
2		+0.048	+0.014	+0.027	+0.028	+0.048
3		+0.039	+0.007	+0.023	+0.024	+0.039
4		+0.030	-0.001	+0.019	+0.019	+0.030
5		+0.023	-0.007	+0.016	+0.014	+0.023
6	000	+0.016	-0.012	+0.013	+0.010	+0.016
7		+0.012	-0.015	+0.010	+0.006	+0.012
8		+0.009	-0.015	+0.009	+0.003	+0.009
9		+0.009	-0.014	+0.009	+0.002	+0.009
10		+0.012	-0.011	+0.009	+0.001	+0.012
11		+0.016	-0.006	+0.011	+0.001	+0.016
12	000	+0.023	0.000	+0.014	+0.003	+0.023
13		+0.031	+0.008	+0.017	+0.006	+0.031
14		+0.040	+0.016	+0.021	+0.010	+0.040
15		+0.049	+0.023	+0.025	+0.014	+0.049
16		+0.058	+0.031	+0.029	+0.019	+0.058
17		+0.065	+0.037	+0.033	+0.023	+0.065
18	000	+0.072	+0.042	+0.036	+0.028	+0.072
19		+0.076	+0.045	+0.038	+0.031	+0.076
20		+0.079	+0.045	+0.039	+0.034	+0.079
21		+0.079	+0.044	+0.040	+0.036	+0.079
22		+0.076	+0.041	+0.039	+0.037	+0.076
23		+0.072	+0.036	+0.037	+0.036	+0.072
24		+0.065	+0.030	+0.035	+0.034	+0.065

\* See special tables, remark (2).

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_a$ 

	Radcl 60		Melb 60		Paris 60	Grw 64	Harv 65	Cape 65
h	s	s	s	s	s	s	s	s
0	+.034 +.022 tg $\delta$		+.062 +.023 tg $\delta$ *		+.050	+.042	-.033	-.013
1	+.029	+.020	+.053	+.028	+.045	+.039	-.037	-.013
2	+.024	+.015	+.045	+.031	+.039	+.036	-.040	-.013
3	+.020	+.010	+.037	+.032	+.034	+.033	-.043	-.012
4	+.016	+.005	+.029	+.031	+.028	+.030	-.045	-.012
5	+.014	-.001	+.022	+.027	+.024	+.026	-.046	-.012
6	+.012	-.008	+.018	+.022	+.020	+.024	-.045	-.012
7	+.012	-.013	+.015	+.015	+.017	+.022	-.043	-.012
8	+.014	-.018	+.014	+.008	+.016	+.020	-.040	-.012
9	+.016	-.021	+.016	-.001	+.016	+.020	-.037	-.012
10	+.020	-.023	+.020	-.009	+.018	+.020	-.033	-.011
11	+.025	-.023	+.025	-.016	+.021	+.021	-.028	-.011
12	+.030	-.022	+.032	-.023	+.025	+.023	-.024	-.011
13	+.035	-.020	+.041	-.028	+.030	+.026	-.020	-.011
14	+.040	-.015	+.049	-.031	+.036	+.029	-.016	-.011
15	+.044	-.010	+.058	-.032	+.041	+.032	-.013	-.012
16	+.048	-.005	+.065	-.031	+.047	+.035	-.012	-.012
17	+.050	+.001	+.072	-.027	+.051	+.039	-.011	-.012
18	+.052	+.008	+.076	-.022	+.055	+.041	-.012	-.012
19	+.052	+.013	+.079	-.015	+.058	+.043	-.013	-.012
20	+.050	+.018	+.080	-.008	+.059	+.045	-.016	-.012
21	+.048	+.021	+.078	+.001	+.059	+.045	-.020	-.012
22	+.044	+.023	+.074	+.009	+.057	+.045	-.024	-.013
23	+.039	+.023	+.069	+.016	+.054	+.044	-.028	-.013
24	+.034	+.022	+.062	+.023	+.050	+.042	-.033	-.013

	Bruss 65		Pulk 65	Grw 72	Melb 70	Wash 75	Cord 75
h	s	s	s	s	s	s	s
0	+.067 +.003 tg $\delta$		-.008	+.039	+.050	-.001	+.021 (9)
1	+.057	+.005	-.008	+.037	+.041	-.002	+.012
2	+.046	+.014	-.007	+.034	+.032	-.003	+.002
3	+.036	+.021	-.006	+.031	+.023	-.003	-.008
4	+.026	+.027	-.005	+.028	+.014	-.004	-.018
5	+.018	+.031	-.004	+.025	+.007	-.004	-.026
6	+.013	+.033	-.003	+.022	+.002	-.004	-.033
7	+.010	+.033	-.002	+.020	-.001	-.004	-.037
8	+.009	+.031	-.002	+.018	-.001	-.003	-.039
9	+.012	+.026	-.001	+.017	+.001	-.002	-.039
10	+.017	+.020	-.001	+.017	+.005	-.001	-.035
11	+.024	+.012	-.001	+.017	+.012	.000	-.030
12	+.033	+.003	-.002	+.019	+.020	+.001	-.022
13	+.043	-.005	-.002	+.021	+.029	+.002	-.013
14	+.054	-.014	-.003	+.023	+.038	+.003	-.003
15	+.064	-.021	-.004	+.026	+.047	+.003	+.007
16	+.074	-.027	-.005	+.030	+.056	+.004	+.017
17	+.082	-.031	-.006	+.033	+.063	+.004	+.025
18	+.087	-.033	-.007	+.035	+.068	+.004	+.032
19	+.090	-.033	-.008	+.038	+.071	+.004	+.036
20	+.091	-.031	-.009	+.040	+.071	+.003	+.038
21	+.088	-.026	-.009	+.041	+.069	+.002	+.038
22	+.083	-.020	-.009	+.041	+.065	+.001	+.035
23	+.076	-.012	-.009	+.040	+.058	.000	+.029
24	+.067	-.003	-.008	+.039	+.050	-.001	+.021

\* S. of  $-50^\circ$ .

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha$ 

	Madr 75		Pulk 75			Becker 75	Harv 75	Paris 75	AGZ 75
h	s	s	s	s	Values of $k$	s	s	s	
0	+0.43	+0.31 $\text{tg } \delta$	-0.03	+0.19 $\times k$	°	+0.08	-0.13	+0.72	
1	+0.43	+0.26	-0.01	+0.12	-20 - .73	+0.08	-0.12	+0.60	
2	+0.44	+0.18	.000	+0.04	-15 - .52	+0.08	-0.11	+0.45	
3	+0.46	+0.07	+0.02	-0.05	-10 - .33	+0.08	-0.10	+0.30	
4	+0.47	.000	+0.04	-0.14	0 00	+0.08	-0.08	+0.17	
5	+0.48	-0.04	+0.06	-0.20	+10 + .28	+0.08	-0.06	+0.08	
6	+0.49	-0.05	+0.08	-0.24	+20 + .51	+0.08	-0.04	+0.03	
7	+0.50	-0.04	+0.09	-0.24	+30 + .72	+0.08	-0.03	+0.04	
8	+0.51	-0.02	+0.10	-0.22	+40 + .91	+0.08	-0.01	+0.10	
9	+0.51	-0.01	+0.10	-0.19	+50 + 1.09	+0.08	.000	+0.17	
10	+0.52	-0.02	+0.10	-0.15	+60 + 1.25	+0.08	+0.01	+0.25	
11	+0.52	-0.07	+0.09	-0.10		+0.08	+0.02	+0.32	
12	+0.51	-0.13	+0.08	-0.07	See Remark 3.	+0.08	+0.02	+0.36	
13	+0.51	-0.18	+0.06	-0.04		+0.08	+0.01	+0.38	
14	+0.50	-0.19	+0.05	-0.01		+0.08	.000	+0.39	
15	+0.48	-0.18	+0.03	+0.01		+0.08	-0.01	+0.39	
16	+0.47	-0.15	+0.01	+0.03		+0.08	-0.03	+0.42	
17	+0.46	-0.11	-0.01	+0.07		+0.08	-0.05	+0.46	
18	+0.45	-0.05	-0.03	+0.11		+0.08	-0.07	+0.53	
19	+0.44	+0.02	-0.04	+0.15		+0.08	-0.08	+0.62	
20	+0.43	+0.12	-0.05	+0.20		+0.08	-0.10	+0.70	
21	+0.43	+0.21	-0.05	+0.24		+0.08	-0.11	+0.77	
22	+0.42	+0.26	-0.05	+0.25		+0.08	-0.12	+0.81	
23	+0.42	+0.29	-0.04	+0.23		+0.08	-0.13	+0.79	
24	+0.43	+0.31	-0.03	+0.19		+0.08	-0.13	+0.72	

	Cape 80	Grw 80	Melb 80	Saff 85	Strassb 85	Cape 85
h	s	s	s	s	s	s
0	+0.47	+0.38	+0.52	+0.14	+0.14	+0.23
1	+0.45	+0.37	+0.49	+0.14	+0.14	+0.20
2	+0.42	+0.36	+0.46	+0.14	+0.14	+0.17
3	+0.40	+0.34	+0.41	+0.14	+0.14	+0.14
4	+0.37	+0.33	+0.36	+0.14	+0.14	+0.11
5	+0.34	+0.32	+0.30	+0.14	+0.14	+0.09
6	+0.31	+0.32	+0.25	+0.14	+0.14	+0.08
7	+0.29	+0.31	+0.21	+0.14	+0.14	+0.08
8	+0.27	+0.31	+0.17	+0.14	+0.15	+0.08
9	+0.26	+0.31	+0.15	+0.14	+0.16	+0.09
10	+0.25	+0.31	+0.13	+0.14	+0.16	+0.10
11	+0.26	+0.32	+0.14	+0.14	+0.17	+0.13
12	+0.27	+0.33	+0.16	+0.14	+0.17	+0.15
13	+0.29	+0.34	+0.19	+0.14	+0.17	+0.18
14	+0.32	+0.35	+0.22	+0.14	+0.18	+0.21
15	+0.34	+0.36	+0.27	+0.14	+0.18	+0.24
16	+0.37	+0.37	+0.32	+0.14	+0.18	+0.27
17	+0.40	+0.38	+0.38	+0.14	+0.17	+0.29
18	+0.43	+0.39	+0.43	+0.14	+0.17	+0.30
19	+0.45	+0.40	+0.47	+0.14	+0.17	+0.30
20	+0.47	+0.40	+0.51	+0.14	+0.16	+0.30
21	+0.48	+0.40	+0.53	+0.14	+0.16	+0.29
22	+0.49	+0.39	+0.55	+0.14	+0.15	+0.28
23	+0.48	+0.39	+0.54	+0.14	+0.15	+0.25
24	+0.47	+0.38	+0.52	+0.14	+0.14	+0.23

For the A. G. zones, see end of these tables.



SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_a$ 

	Pulk 85	Radcl 90	Cinc 90	Cape 90	Grw 90	Berl 90
<b>h</b>	<b>s</b>	<b>s</b>	<b>s</b>	<b>s</b>	<b>s</b>	<b>s</b>
0	+ .014	+ .024	+ .016	+ .024	+ .045	+ .021
1	+ .015	+ .023	+ .015	+ .023	+ .045	+ .020
2	+ .016	+ .022	+ .014	+ .021	+ .045	+ .019
3	+ .018	+ .020	+ .013	+ .020	+ .045	+ .018
4	+ .019	+ .018	+ .013	+ .019	+ .045	+ .017
5	+ .021	+ .016	+ .013	+ .018	+ .045	+ .017
6	+ .023	+ .014	+ .013	+ .017	+ .045	+ .016
7	+ .024	+ .013	+ .013	+ .016	+ .045	+ .016
8	+ .025	+ .011	+ .014	+ .016	+ .045	+ .016
9	+ .026	+ .010	+ .015	+ .017	+ .045	+ .017
10	+ .026	+ .009	+ .016	+ .017	+ .045	+ .017
11	+ .026	+ .009	+ .017	+ .018	+ .045	+ .018
12	+ .025	+ .010	+ .018	+ .019	+ .045	+ .019
13	+ .024	+ .011	+ .019	+ .021	+ .045	+ .020
14	+ .023	+ .012	+ .020	+ .022	+ .045	+ .021
15	+ .022	+ .014	+ .021	+ .023	+ .045	+ .022
16	+ .020	+ .016	+ .021	+ .025	+ .045	+ .023
17	+ .018	+ .018	+ .021	+ .026	+ .045	+ .023
18	+ .017	+ .020	+ .021	+ .027	+ .045	+ .024
19	+ .016	+ .021	+ .021	+ .027	+ .045	+ .024
20	+ .014	+ .023	+ .020	+ .027	+ .045	+ .024
21	+ .014	+ .024	+ .019	+ .027	+ .045	+ .023
22	+ .013	+ .025	+ .018	+ .026	+ .045	+ .023
23	+ .014	+ .025	+ .017	+ .025	+ .045	+ .022
24	+ .014	+ .024	+ .016	+ .024	+ .045	+ .021

	Madn 90	Lisb 90	Melb 90	Pulk 92	Lick 95	Berl 95
<b>h</b>	<b>s</b>	<b>s</b>	<b>s</b>	<b>s</b>	<b>s</b>	<b>s</b>
0	+ .007	+ .015	+ .049	+ .023	+ .024	+ .022
1	+ .007	+ .014	+ .048	+ .022	+ .024	+ .022
2	+ .006	+ .014	+ .048	+ .021	+ .023	+ .021
3	+ .006	+ .015	+ .047	+ .020	+ .023	+ .020
4	+ .006	+ .015	+ .046	+ .019	+ .023	+ .020
5	+ .005	+ .015	+ .045	+ .018	+ .024	+ .019
6	+ .005	+ .015	+ .044	+ .017	+ .024	+ .018
7	+ .005	+ .016	+ .043	+ .017	+ .025	+ .018
8	+ .006	+ .016	+ .042	+ .017	+ .027	+ .017
9	+ .006	+ .017	+ .041	+ .017	+ .028	+ .017
10	+ .007	+ .017	+ .041	+ .018	+ .029	+ .017
11	+ .007	+ .017	+ .041	+ .019	+ .031	+ .017
12	+ .008	+ .017	+ .041	+ .020	+ .032	+ .018
13	+ .008	+ .018	+ .042	+ .021	+ .033	+ .018
14	+ .009	+ .018	+ .042	+ .022	+ .033	+ .019
15	+ .009	+ .017	+ .043	+ .023	+ .033	+ .020
16	+ .009	+ .017	+ .044	+ .024	+ .033	+ .020
17	+ .010	+ .017	+ .045	+ .025	+ .033	+ .021
18	+ .010	+ .017	+ .046	+ .026	+ .032	+ .022
19	+ .010	+ .016	+ .046	+ .026	+ .031	+ .022
20	+ .009	+ .016	+ .047	+ .026	+ .030	+ .023
21	+ .009	+ .015	+ .048	+ .026	+ .028	+ .023
22	+ .008	+ .015	+ .049	+ .025	+ .027	+ .023
23	+ .008	+ .015	+ .049	+ .024	+ .026	+ .023
24	+ .007	+ .015	+ .049	+ .023	+ .024	+ .022

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_a$ 

	Alb 00	Lick 00	Mün 00	Cape 00	Cinc 00 S. of +30° N. of +30°	
h	s	s	s	s	s	s
0	.000	+.040	-.008	+.005 (25)	+.025	+.026
1		+.038	-.008	+.004	+.022	+.026
2		+.036	-.008	+.003	+.019	+.026
3		+.033	-.008	+.002	+.016	+.026
4		+.031	-.008	+.001	+.014	+.026
5	.000	+.030	-.008	.000	+.013	+.026
6	.000	+.028	-.008	-.001	+.013	+.026
7		+.028	-.008	-.002	+.014	+.026
8		+.028	-.008	-.002	+.015	+.026
9		+.029	-.008	-.002	+.017	+.026
10		+.030	-.008	-.002	+.020	+.026
11	.000	+.032	-.008	-.002	+.023	+.026
12	.000	+.034	-.008	-.001	+.027	+.026
13		+.036	-.008	.000	+.030	+.026
14		+.038	-.008	+.001	+.033	+.026
15		+.041	-.008	+.002	+.036	+.026
16		+.043	-.008	+.003	+.038	+.026
17	.000	+.044	-.008	+.004	+.039	+.026
18	.000	+.046	-.008	+.005	+.039	+.026
19		+.046	-.008	+.006	+.038	+.026
20		+.046	-.008	+.006	+.037	+.026
21		+.045	-.008	+.006	+.035	+.026
22		+.044	-.008	+.006	+.032	+.026
23		+.042	-.008	+.006	+.029	+.026
24	.000	+.040	-.008	+.005	+.025	+.026

	Bonn 00	Cape 06			
h	s	s			
0	+.028	+.005			
1	+.028	+.004			
2	+.028	+.003			
3	+.028	+.002			
4	+.028	+.001			
5	+.026	.000			
6	+.023	-.001			
7	+.020	-.002			
8	+.018	-.002			
9	+.019	-.002			
10	+.020	-.002			
11	+.022	-.002			
12	+.025	-.001			
13	+.027	.000			
14	+.029	+.001			
15	+.029	+.002			
16	+.029	+.003			
17	+.030	+.004			
18	+.030	+.005			
19	+.030	+.006			
20	+.029	+.006			
21	+.029	+.006			
22	+.028	+.006			
23	+.028	+.006			
24	+.028	+.005			

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Br 1755	Pi 00	Groomb 10	Kön 15	Grw 15	Dpt 15 R (4)
$^{\circ}$	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
+90	-.023 Sec. $\delta$	+.053 Sec. $\delta$	+.012 Sec. $\delta$	-.007 Sec. $\delta$	+.000 Sec. $\delta$	+.007 Sec. $\delta$
85	-.023	+.048	+.014	-.006	+.000	+.007
80	-.023	+.045	+.017	-.004	+.000	+.007
+80	-.132	+.259	+.098	-.020	.000	+.043
75	-.089	+.172	+.073	+.008	.000	+.035
70	-.067	+.140	+.044	+.006	.000	+.035
65	-.055	+.143	-.028	-.025	-.001	+.028
60	-.044	+.152	-.046	-.024	-.005	+.016
+55	-.024	+.143	-.014	-.002	-.012	+.003
50	-.007	+.114	-.022	+.009	-.019	-.009
45	+.001	+.072	-.046	+.006	-.027	-.019
40	+.005	+.058	-.035	.000	-.034	
35	+.007	+.062		-.005	-.041	
30	+.007	+.066		-.009	-.043	
+25	+.006	+.063		-.010	-.040	
20	+.004	+.056		-.010	-.034	
15	+.003	+.040		-.008	-.022	
10	+.002	+.013		-.006	-.006	
+ 5	+.002	-.013		-.003	+.009	
0	+.001	-.029		+.004	+.021	
- 5	-.000	-.038		+.010	+.028	
10	-.007	-.048		+.006	+.031	
15	-.018	-.057		+.001	+.034	
20	-.023	-.068		-.004	+.039	
25	-.024	-.084		-.009	+.046	
-30	-.017	-.118		-.016	+.058	
35		-.146				
40		-.184				
45		-.240				
50						
55						
-60						
65						
70						
75						
-80						
-80						
85						
-90						
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_M$						
Magn.	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
1	+.031	+.010	+.027	+.022	+.018	+.017*
4	-.006	-.002	-.005	-.004	-.004	-.003
5	-.019	-.006	-.016	-.013	-.011	-.010
6	-.031	-.010	-.027	-.022	-.018	-.017
7	-.043	-.015	-.037	-.031	-.026	-.024
8	-.056	-.019	-.048	-.040	-.033	-.031

\* Not derived from observations; see p. 279 under  $\Delta\alpha_M$



SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Kön 20	Schw 28	Cape 30	Camb 30	Wrot 30	St H 30
$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
+90	.000 Sec. $\delta$	+.005 Sec. $\delta$		+.021 Sec. $\delta$		
+85	.000	+.010		+.021		
80	.000	+.015		+.021		
+80	.000	+.089		+.121		
75	.000			+.081		
70	.000			+.061		
65	.000			+.047		+.024
60	-.003			+.035		+.024
+55	-.010			+.020		+.018
50	-.022			+.002		+.009
45	-.024			-.008		-.003
40	-.016			-.007		-.008
35	-.004			+.002		-.009
30	+.002			+.016	+.019	-.005
+25	+.005			+.024	+.031	+.002
20	+.005			+.025	+.033	+.006
15	+.003			+.014	+.023	+.007
10	.000			-.009	+.009	+.004
+5	-.003			-.014	.000	-.004
0	-.006		-.017	-.008	-.007	-.008
-5	-.009		-.017	+.002	-.013	-.008
10	-.012		-.010	+.006	-.019	-.008
15	-.015		-.001	+.004	-.025	-.002
20	-.019		+.007	-.002	-.016	+.004
25	-.023		+.015	-.008	-.008	-.015
-30			+.021	-.015	+.002	-.040
35			+.027			-.045
40			+.033			-.052
45			+.043			-.060
50			+.059			-.070
55			+.077			-.082
-60			+.094			-.098
65			+.111			-.116
70			+.137			-.143
75			+.181			-.189
-80			+.271			-.282
-80						
85						
-90						
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_m$						
Magn.	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1	+.026	+.017 *	+.035	+.003	+.012	+.013
4	-.005	-.003	-.007	-.001	-.002	-.003
5	-.016	-.010	-.021	-.002	-.007	-.008
6	-.026	-.017	-.035	-.003	-.012	-.013
7	-.037	-.024	-.049	-.005	-.016	-.018
8	-.047	-.031	-.063	-.006	-.021	-.023

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	$\alpha$ Abo 30	Grw 30	Dpt 30	Cape 33	Madr 35	Edinb 40
$^{\circ}$	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
+90	+0.006 Sec. $\delta$	-0.012 Sec. $\delta$	+0.006 Sec. $\delta$		.000 Sec. $\delta$	+0.012 Sec. $\delta$
85	+0.008	-0.019	+0.006		+0.022	+0.002
80	+0.011	-0.022	+0.006		+0.044	-0.008
+80	+0.063	-0.127	+0.037		+0.253	-0.046
75	+0.054	-0.069	+0.026		+0.247	-0.070
70	+0.049	-0.020	+0.023		+0.216	-0.081
65	+0.043	+0.026	+0.033		+0.171	-0.084
60	+0.035	+0.054	+0.037		+0.141	-0.065
+55	+0.028	+0.061	+0.036		+0.124	-0.033
50	+0.023	+0.055	+0.033		+0.116	-0.018
45	+0.018	+0.041	+0.031	+0.089	+0.110	-0.008
40	+0.012	+0.025	+0.029	+0.079	+0.098	-0.008
35	+0.004	+0.019	+0.025	+0.066	+0.073	-0.010
30	-0.004	+0.021	+0.021	+0.052	+0.053	-0.009
+25	-0.008	+0.024	+0.013	+0.034	+0.035	-0.004
20	-0.007	+0.024	+0.007	+0.015	+0.019	-0.002
15	-0.006	+0.023	+0.003	+0.003	+0.004	-0.003
10	-0.005	+0.016	.000	-0.005	-0.006	-0.004
+ 5	-0.002	+0.005	-0.003	-0.009	-0.013	-0.006
0	+0.002	-0.010	-0.007	-0.012	-0.018	-0.002
- 5	+0.006	-0.020	-0.010	-0.014	-0.023	+0.006
10	+0.010	-0.025	-0.013	-0.013	-0.031	+0.004
15	+0.013	-0.029	-0.016	-0.011	-0.040	-0.005
16	+0.015	-0.033	-0.017	-0.005	-0.049	-0.018
25		-0.038		+0.001	-0.057	
-30		-0.044		+0.004	-0.064	
35				+0.004	-0.066	
40				.000	-0.071	
45				-0.005	-0.076	
50				-0.009	-0.084	
55				-0.010	-0.094	
-60				-0.008	-0.108	
65				-0.003	-0.128	
70				.000		
75				.000		
-80				.000		
-80				.000 Sec. $\delta$		
85				.000		
-90				.000		
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_m$						
Magn.	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
1	+0.019	+0.022	+0.022	+0.021	+0.041	+0.016
4	-0.004	-0.004	-0.003	-0.004	-0.008	-0.003
5	-0.012	-0.013	-0.013	-0.013	-0.024	-0.009
6	-0.019	-0.022	-0.022	-0.021	-0.041	-0.016
7	-0.027	-0.031	-0.030	-0.029	-0.057	-0.022
8	-0.035	-0.040	-0.039	-0.038	-0.073	-0.028

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta_{\alpha s}$ 

$\delta$	Arm 40	Cape 40	Grw 40	Grw 45	Radcl 45	Pulk 45
$^{\circ}$	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
+90	+0.006 Sec. $\delta$		-0.014 Sec. $\delta$	.000 Sec. $\delta$	-0.004 Sec. $\delta$	.000 Sec. $\delta$
85	-.005		-.032	-.005	-.003	+0.001
80	-.015		-.041	-.015	-.002	+0.003
+80	-.086		-.236	-.086	-.012	+0.018
75	-.096		-.174	-.093	.000	+0.023
70	-.105		-.131	-.085	.000	+0.018
65	-.109		-.101	-.071	+0.002	+0.011
60	-.093		-.060	-.050	+0.014	+0.002
+55	-.058		-.021	-.026	+0.023	-.004
50	-.030		-.005	-.011	+0.024	-.007
45	-.025	+0.037	-.001	-.003	+0.023	-.011
40	-.031	+0.033	-.005	.000	+0.022	-.012
35	-.032	+0.028	-.012	-.004	+0.026	-.010
30	-.022	+0.021	-.012	-.013	+0.027	-.008
+25	-.013	+0.011	-.006	-.012	+0.027	-.006
20	-.007	-.002	-.005	-.008	+0.025	-.003
15	-.004	-.010	-.011	-.004	+0.019	.000
10	+0.003	-.016	-.010	+0.003	+0.003	+0.003
+ 5	+0.005	-.016	-.002	+0.006	-.018	+0.005
0	-.006	-.005	+0.006	.000	-.028	+0.005
- 5	-.008	+0.002	+0.010	-.002	-.028	+0.003
10	-.001	+0.004	+0.013	+0.001	-.020	.000
15	+0.011	+0.002	+0.012	+0.001	-.019	+0.002
20	+0.025	+0.004	+0.010	-.005	-.019	+0.008
25	+0.029	+0.010	+0.003	-.018	-.020	+0.018
-30	+0.030	+0.013	-.002	-.023	-.021	
35		+0.010				
40		+0.011				
45		+0.011				
50		+0.016				
55		+0.021				
-60		+0.026				
65		+0.031				
70		+0.038				
75		+0.050				
-80		+0.075				
-80		+0.013 Sec. $\delta$				
85		+0.013				
-90		+0.013				

CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION.  $\Delta_{\alpha M}$ 

Magn.	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
1	+0.019	+0.020	.000	+0.013	+0.033	+0.011
4	-.004	-.004	.000	-.003	-.007	-.002
5	-.011	-.012	.000	-.008	-.020	-.007
6	-.019	-.020	.000	-.013	-.033	-.011
7	-.027	-.027	.000	-.018	-.046	-.015
8	-.034	-.035	.000	-.023	-.059	-.020



SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Paris 45	Stgo 50	Gi Z 50	Cape 50	Grw 50	Pulk 55
$^{\circ}$	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
+90	.000 Sec. $\delta$				.000 Sec. $\delta$	-.026 Sec. $\delta$
85	+.004				-.014	-.012
80	+.002				-.024	-.008
+80	+.014				-.135	-.046
75	.000				-.106	-.029
70	+.007				-.077	-.035
65	+.019				-.053	-.023
60	+.025				-.031	+.004
+55	+.022				-.009	+.003
50	+.012				+.005	-.009
45	+.001				+.006	-.018
40	-.005				+.001	-.018
35	-.007				-.007	-.013
30	-.007				-.011	-.003
+25	-.003				-.010	+.002
20	+.002				-.006	+.002
15	+.006				.000	+.001
10	+.006				+.002	-.002
+5	.000				+.002	-.006
0	-.002	-.012		+.008	+.003	-.003
-5	-.002	-.018		+.007		+.004
10	+.001	-.021		+.003		+.015
15	+.001	-.023		.000		+.023
20	+.001	-.025		.000		+.023
25	+.001	-.027		.000		
-30	+.001	-.033		-.006		
35		-.044		-.026		
40		-.052		-.061		
45		-.056		-.075		
50		-.054		-.072		
55		-.042		-.040		
-60		-.032		-.012		
65		-.018	+.033	.000		
70		+.002	+.064	.000		
75		+.026	+.062	.000		
-80		+.059	+.094	.000		
-80			+.016 Sec. $\delta$	.000 Sec. $\delta$		
85			+.023	.000		
-90			+.028	.000		

CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION.  $\Delta\alpha_M$ 

Magn.	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
1	+.013	+.031	+.017*	+.026	+.008	+.014
4	-.003	-.006	-.003	-.005	-.002	-.003
5	-.008	-.019	-.010	-.015	-.005	-.009
6	-.013	-.031	-.017	-.026	-.008	-.014
7	-.019	-.044	-.024	-.036	-.012	-.020
8	-.024	-.056	-.031	-.046	-.015	-.026

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Carr 55	Stgo 55	Wash 60	Cape 60	Grw 60	Stgo 60
$^{\circ}$	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
+90	-.013 Sec. $\delta$		+.009 Sec. $\delta$		-.007 Sec. $\delta$	
85	-.013		+.009		-.007	
80	-.013		+.009		-.008	
+80	-.075		+.052		-.045	
75			+.035		-.032	
70			+.015		-.037	
65			-.008		-.041	
60			-.028		-.046	
+55			-.030		-.046	
50			-.023		-.044	
45			-.010	+.032	-.040	
40			+.016	+.022	-.037	
35			+.024	+.012	-.032	
30			+.017	+.004	-.026	
+25			+.008	-.003	-.020	
20			+.002	-.010	-.013	
15			-.001	-.010	-.006	
10			-.003	-.004	.000	
+5			-.004	+.004	+.006	
0		-.010	-.004	+.008	+.011	-.010
-5		-.015	-.003	+.010	+.013	-.015
10		-.018	-.002	+.008	+.014	-.018
15		-.020	+.001	+.002	+.012	-.020
20		-.021	+.004	-.002	+.007	-.021
25		-.028	+.012	+.003	+.004	-.028
-30		-.044	+.026	+.020	+.002	-.044
35		-.073	+.025	+.030		-.073
40		-.093	+.024	+.039		-.093
45		-.100		+.044		-.100
50		-.093		+.051		-.093
55		-.046		+.059		-.046
-60		-.018		+.060		-.018
65		-.005		+.046		-.005
70		.000		+.030		.000
75		.000		+.018		.000
-80		.000		+.010		.000
-80				+.002 Sec. $\delta$		
85				+.001		
-90				.000		
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_M$						
Magn.	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
1	+.017 *	+.017 *	+.008	+.026	+.015	+.017 *
4	-.003	-.003	-.002	-.005	-.003	-.003
5	-.010	-.010	-.005	-.016	-.009	-.010
6	-.017	-.017	-.008	-.026	-.015	-.017
7	-.024	-.024	-.010	-.037	-.021	-.024
8	-.031	-.031	-.013	-.048	-.027	-.031

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Radcl 60	Melb 60	Paris 60	Grw 64	Harv 65	Cape 65
$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
+90	.000 Sec. $\delta$		-.016 Sec. $\delta$	.000 Sec. $\delta$	-.008 Sec. $\delta$	
85	-.006		-.010	.000	-.008	
80	-.012		-.002	.000	-.007	
+80	-.066		-.014	.000	-.041	
75	-.066		+0.019	.000	-.004	
70	-.067		+0.029	.000	+0.034	
65	-.062		+0.028	+0.005	+0.045	
60	-.049		+0.017	+0.008	+0.045	
+55	-.026		+0.002	+0.006	+0.039	
50	+0.005		+0.003	-.004	+0.031	
45	+0.014		+0.014	-.013	+0.022	
40	+0.011	-.034	+0.019	-.020	+0.018	
35	+0.004	-.029	+0.016	-.026	+0.016	
30	-.003	-.021	+0.010	-.024	+0.016	+0.012
+25	-.003	-.013	+0.006	-.018	+0.014	+0.003
20	+0.001	-.006	+0.004	-.008	+0.012	-.004
15	+0.008	-.002	+0.004	-.001	+0.009	-.008
10	+0.017	+0.001	+0.004	+0.003	+0.004	-.011
+5	+0.016	+0.002	+0.003	+0.008	-.001	-.011
0	+0.009	.000	-.004	+0.011	-.007	-.010
-5	+0.002	+0.004	-.007	+0.011	-.010	-.008
10	-.006	+0.011	-.007	+0.010	-.009	-.001
15	-.017	+0.014	-.007	+0.004	-.012	+0.010
20	-.039	+0.011	-.011	.000	-.021	+0.026
25	-.059	+0.001	-.019	.000	-.033	+0.042
-30	-.076	-.006	-.018	.000	-.046	+0.051
35		-.010			-.062	+0.046
40		-.016				+0.030
45		-.024				+0.021
50		-.032				+0.025
55		-.039				+0.046
-60		-.039				+0.082
65		-.027				+0.109
70		+0.008				+0.123
75		+0.043				+0.113
80		+0.071				+0.102
-80		+0.012 Sec. $\delta$				+0.018 Sec. $\delta$
85		+0.007				+0.010
-90		+0.003				+0.006
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_M$						
Magn.	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1	+0.025	+0.016	+0.009	+0.020	+0.028	+0.032
4	-.005	-.003	-.002	-.004	-.006	-.006
5	-.015	-.009	-.005	-.012	-.017	-.019
6	-.025	-.016	-.009	-.020	-.028	-.032
7	-.035	-.022	-.012	-.028	-.040	-.044
8	-.045	-.028	-.016	-.036	-.051	-.057



SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Bruss 65	Pulk 65	Grw 72	Melb 70	Wash 75	Cord 75
$^{\circ}$	$^s$	$^s$	$^s$	$^s$	$^s$	
+90	+0.021 Sec. $\delta$	-0.003 Sec. $\delta$	+0.010 Sec. $\delta$		.000 Sec. $\delta$	(9)
85	+0.008	-0.005	+0.010		.000	
80	-0.005	-0.007	+0.010		-0.003	
+80	-0.029	-0.039	+0.058		-0.017	
75	-0.069	-0.032	+0.039		-0.023	
70	-0.091	-0.029	+0.028		-0.023	
65	-0.102	-0.024	+0.016		-0.026	
60	-0.093	-0.020	+0.008		-0.032	
+55	-0.067	-0.017	+0.007		-0.038	
50	-0.034	-0.018	+0.005		-0.036	
45	-0.011	-0.022	-0.003		-0.025	
40	-0.008	-0.022	-0.016	+0.018	-0.010	
35	-0.015	-0.019	-0.020	+0.010	+0.004	
30	-0.015	-0.012	-0.018	+0.007	+0.010	-0.008
+25	-0.013	-0.004	-0.012	+0.009	+0.012	-0.002
20	-0.012	.000	-0.006	+0.010	+0.011	+0.002
15	-0.011	+0.003	-0.001	+0.007	+0.008	+0.002
10	-0.010	+0.005	+0.002	+0.003	+0.003	.000
+ 5	-0.003	+0.007	+0.006	-0.001	-0.005	-0.004
0	+0.005	+0.011	+0.009	-0.007	-0.008	-0.002
- 5	+0.006	+0.008	+0.008	-0.010	-0.011	+0.004
10	+0.008	+0.001	+0.003	-0.010	-0.012	+0.010
15	+0.015	-0.006	.000	-0.009	-0.009	+0.016
20	+0.023	-0.010	.000	-0.008	-0.004	+0.017
25	+0.020		.000	-0.009	-0.008	+0.013
-30	+0.008		.000	-0.009	-0.016	+0.003
35				-0.006	-0.018	-0.010
40				-0.004	-0.023	-0.020
45				-0.006		-0.024
50				-0.011		-0.025
55				-0.019		-0.026
-60				-0.032		-0.027
65				-0.044		-0.028
70				-0.057		-0.023
75				-0.071		-0.010
80				-0.089		.000
-80				-0.015 Sec. $\delta$		.000 Sec. $\delta$
85				-0.011		.000
-90				-0.006		.000
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_M$						
Magn.	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
1	+0.010	+0.020	+0.020	+0.016	+0.022	+0.018
4	-0.002	-0.004	-0.004	-0.003	-0.004	-0.004
5	-0.006	-0.012	-0.012	-0.010	-0.013	-0.011
6	-0.010	-0.020	-0.020	-0.016	-0.022	-0.018
7	-0.014	-0.029	-0.028	-0.023	-0.030	-0.025
8	-0.018	-0.037	-0.036	-0.030	-0.039	-0.032

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Madr 75	Pulk 75	Becker 75	Harv 75	Paris 75	AGZ 75
$^{\circ}$	$^s$	$^s$	$^s$	$^s$	$^s$	
+90	.000 Sec. $\delta$	-.012 Sec. $\delta$	-.008 Sec. $\delta$	-.002 Sec. $\delta$	-.012 Sec. $\delta$	
85	-.004	-.012	-.008	-.002	-.006	
80	-.013	-.014	-.008	-.002	.000	
+80	-.075	-.078	-.046	-.014	.000	See end of these tables of $\Delta\alpha_s$ .
75	-.077	-.054	-.031	-.013		
70	-.039	-.039	-.023	-.011		
65	-.007	-.024	-.019	-.004		
60	+.016	-.008	-.016	+.005		
+55	+.032	-.010	-.021	+.007	+.023	
50	+.047	-.016	-.025	+.003	+.029	
45	+.048	-.017	-.021	+.003	+.031	
40	+.033	-.016	-.012	+.003	+.028	
35	+.018	-.015	-.002	+.005	+.017	
30	+.009	-.013	-.005	+.007	+.007	
+25	+.004	-.009	-.014	+.006	+.003	
20	.000	-.004	-.017	+.004	+.002	
15	-.004	+.003	-.011	+.002	+.002	
10	-.008	+.008	-.006	.000	+.002	
+ 5	-.013	+.010	-.005	.000	+.002	
0	-.013	+.010	.000	-.001	-.002	
- 5	-.007	+.010	+.009	-.005	-.010	
10	+.001	+.008	+.013	-.008	-.012	
15	+.006	+.005	+.013	-.006	-.011	
20	+.011	+.002	+.010	-.001	-.009	
25	+.015		+.008	+.007	-.006	
-30	+.024		+.005	+.017	.000	
35	+.034			+.026		
40	+.039					
45	+.038					
50	+.031					
55	+.017					
-60	-.007					
65	-.038					
70						
75						
80						
-80						
85						
-90						
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_M$						
Magn.	$^s$	$^s$	$^s$	$^s$	$^s$	
1	+.030	+.010	+.022	+.016	+.014	
4	-.006	-.002	-.004	-.003	-.003	
5	-.018	-.006	-.013	-.010	-.008	
6	-.030	-.010	-.022	-.016	-.014	
7	-.042	-.014	-.031	-.023	-.019	
8	-.054	-.018	-.040	-.030	-.024	

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Cape 80 (10)	Grw 80	Melb 80	Saff 85	Strassb 85	Cape 85
$^{\circ}$	$s$ $s$	$s$	$s$	$s$	$s$	$s$
+90		+0.15 Sec. $\delta$		-0.06 Sec. $\delta$	0.00 Sec. $\delta$	
85		+0.15		-0.10	+0.01	
80		+0.10		-0.13	+0.04	
+80		+0.58		-0.75	+0.24	
75		+0.29			+0.38	
70		+0.23			+0.42	
65		+0.19			+0.38	
60		+0.11			+0.32	
+55		+0.03			+0.25	
50		-0.03			+0.17	
45	+0.03	-0.06	-0.01		+0.10	-0.16
40	+0.03	-0.09	0.00		+0.05	-0.16
35	+0.02	-0.09	+0.02		0.00	-0.16
30	+0.02	-0.08	+0.05		-0.03	-0.15
+25	+0.02	-0.06	+0.09		-0.05	-0.12
20	-0.02	-0.03	+0.08		-0.06	-0.08
15	-0.05	0.00	+0.04		-0.06	-0.03
10	-0.07	+0.02	-0.04		-0.03	-0.02
+5	-0.04	+0.04	-0.11		+0.03	-0.03
0	0.00	+0.05	-0.12		+0.09	-0.03
-5	+0.03	+0.05	-0.08		+0.08	+0.01
10	+0.07	+0.03	+0.03		+0.05	+0.07
15	+0.12	+0.01	+0.16		+0.02	+0.16
20	+0.22	+0.01	+0.29		-0.02	+0.24
25	+0.31	+0.01	+0.42		-0.07	+0.31
-30	+0.34	+0.01	+0.46		-0.10	+0.33
35	+0.45 +0.14		+0.51		-0.15	+0.30
40			+0.56			+0.28
45	+0.53 +0.34		+0.53			+0.25
50	+0.58		+0.47			+0.23
55	+0.65 -0.29		+0.29			+0.18
-60			+0.08			+0.14
65	-0.03 -0.18		-0.11			+0.09
70	-0.03		-0.25			+0.03
75	-0.03 -0.18		-0.35			0.00
80	-0.26		-0.48			0.00
-80	-0.05 Sec. $\delta$		-0.08 Sec. $\delta$			0.00 Sec. $\delta$
85	-0.05		-0.08			0.00
-90	-0.05		-0.08			0.00
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_m$						
Magn.	$s$	$s$	$s$	$s$	$s$	$s$
1	+0.25	+0.19	+0.11	+0.17*	+0.13	+0.19
4	-0.05	-0.04	-0.02	-0.03	-0.03	-0.04
5	-0.15	-0.11	-0.07	-0.10	-0.09	-0.11
6	-0.25	-0.19	-0.11	-0.17	-0.15	-0.19
7	-0.35	-0.26	-0.16	-0.24	-0.21	-0.26
8	-0.45	-0.34	-0.20	-0.31	-0.27	-0.34



SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Pulk 85	Radcl 90	Cinc 90	Cape 90	Grw 90	Berl 90
$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
+90	+0.005 Sec. $\delta$	+0.000 Sec. $\delta$			-0.013 Sec. $\delta$	-0.006 Sec. $\delta$
85	+0.002	+0.009			-0.006	-0.006
80	.000	+0.018			+0.003	-0.006
+80	.000	+0.104			+0.018	-0.036
75	-0.016	+0.104			+0.030	-0.027
70	-0.019	+0.093	+0.006		+0.027	-0.023
65	-0.015	+0.069	+0.019		+0.014	-0.022
60	-0.007	+0.024	+0.028		-0.004	-0.022
+55	+0.002	-0.002	+0.032		-0.015	-0.023
50	+0.003	-0.010	+0.034		-0.015	-0.025
45	-0.002	-0.008	+0.031	+0.020	-0.008	-0.026
40	-0.004	-0.005	+0.022	+0.016	-0.007	-0.026
35	-0.001	-0.013	+0.011	+0.013	-0.006	-0.023
30	-0.001	-0.028	+0.006	+0.009	-0.006	-0.018
+25	-0.006	-0.031	+0.006	+0.004	-0.006	-0.013
20	-0.008	-0.028	+0.008	+0.001	-0.004	-0.008
15	-0.006	-0.020	+0.016	+0.001	-0.002	-0.004
10	-0.003	-0.013	+0.014	.000	.000	.000
+5	+0.001	-0.005	-0.001	-0.004	+0.001	+0.004
0	+0.004	+0.007	-0.009	-0.006	+0.002	+0.008
-5	+0.005	+0.024	-0.010	-0.006	+0.004	+0.012
10	+0.004	+0.041	-0.010	-0.005	+0.007	+0.014
15	+0.004	+0.059	-0.010	.000	+0.009	+0.012
20	+0.004	+0.078	-0.018	+0.008	+0.010	+0.004
25		+0.100	-0.028	+0.019	+0.010	.000
-30		+0.124	-0.029	+0.028	+0.007	.000
35			-0.027	+0.034		
40				+0.038		
45				+0.039		
50				+0.039		
55				+0.038		
-60				+0.037		
65				+0.037		
70				+0.035		
75				+0.036		
80				+0.040		
-80				+0.007 Sec. $\delta$		
85				+0.006		
-90				+0.005		
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_M$						
Magn.	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$	$^{\circ}$
1	+0.019	+0.010	+0.018	+0.024	+0.013	+0.005
4	-0.004	-0.002	-0.004	-0.005	-0.003	-0.001
5	-0.011	-0.006	-0.011	-0.015	-0.008	-0.003
6	-0.019	-0.010	-0.018	-0.024	-0.013	-0.005
7	-0.026	-0.014	-0.026	-0.034	-0.018	-0.007
8	-0.034	-0.018	-0.033	-0.044	-0.023	-0.009

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Madn 90	Lisb 90	Melb 90	Pulk 92	Lick 95	Berl 95
$^{\circ}$	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
+90	.000 Sec. $\delta$			+0.006 Sec. $\delta$	+0.011 Sec. $\delta$	+0.000 Sec. $\delta$
85	.000			+0.004	+0.013	+0.004
80	+0.003			+0.002	+0.015	+0.011
+80	+0.019			+0.010	+0.086	+0.064
75	+0.022			-0.002	+0.064	+0.041
70	+0.029			-0.009	+0.054	+0.020
65	+0.031	.000		-0.012		+0.005
60	+0.026	-0.004		-0.014		-0.004
+55	+0.019	-0.006		-0.014		-0.010
50	+0.011	-0.009		-0.015		-0.016
45	+0.007	-0.009	+0.006	-0.016		-0.017
40	+0.006	-0.008	+0.008	-0.016	-0.008	-0.015
35	+0.008	-0.007	+0.010	-0.015	.000	-0.013
30	+0.009	-0.005	+0.009	-0.013	+0.005	-0.011
+25	+0.008	-0.002	+0.008	-0.008	+0.007	-0.009
20	+0.006	.000	+0.006	-0.004	+0.008	-0.007
15	+0.002	+0.002	+0.003	-0.003	+0.007	-0.004
10	.000	+0.004	.000	.000	+0.004	+0.002
+5	-0.002	+0.005	-0.003	+0.004	-0.001	+0.006
0	-0.004	+0.004	-0.005	+0.005	-0.005	+0.008
-5	-0.007	+0.001	-0.006	+0.003	-0.008	+0.009
10	-0.009	-0.003	-0.007	-0.001	-0.010	+0.011
15	-0.011	-0.006	-0.006	-0.006	-0.012	+0.013
20		-0.007	-0.003		-0.014	+0.016
25		-0.007	+0.003		-0.012	+0.017
-30		-0.007	+0.006		-0.009	
35		-0.007	+0.002		-0.004	
40			-0.005		+0.006	
45			-0.014			
50			-0.025			
55			-0.038			
-60			-0.056			
65			-0.073			
70			-0.100			
75			-0.135			
80			-0.196			
-80			-0.034 Sec. $\delta$			
85			-0.028			
-90			-0.021			
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha$						
Magn.	$^s$	$^s$	$^s$	$^s$	$^s$	$^s$
1	+0.029	+0.019	+0.013	+0.012	+0.021	+0.015
4	-0.006	-0.004	-0.003	-0.002	-0.004	-0.003
5	-0.017	-0.012	-0.008	-0.008	-0.013	-0.009
6	-0.029	-0.019	-0.013	-0.012	-0.021	-0.015
7	-0.040	-0.027	-0.018	-0.018	-0.030	-0.021
8	-0.052	-0.035	-0.023	-0.022	-0.038	-0.027

SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Alb oo	Lick oo	Mün oo	Cp Z oo	Cape oo	Cinc oo
$^{\circ}$	s	s	s		s	s
+90	.000	+ .006 Sec. $\delta$				
85	.000	+ .008				
80	.000	+ .010				
+80	.000	+ .058	.000			+ .161
75			+ .038			+ .079
70			+ .049			+ .026
65			+ .049			— .005
60			+ .040			— .016
+55	.000		+ .024			— .016
50			+ .012			— .014
45			+ .004			— .014
40			.000			— .018
35			— .002			— .021
30			— .003			— .020
+25	.000		— .002			— .015
20			— .002			— .004
15			.000			+ .001
10			+ .003			+ .002
+ 5			+ .004			+ .001
0	.000	+ .003	+ .002			.000
— 5	.000	+ .003	— .001			
10		+ .001	— .005		Rem. (25)	
15		— .002	— .011			
20		— .006	— .018			
25		— .013				
—30	.000	— .019			.000	
35		— .024			.000	
40		— .029			.000	
45		— .032			.000	
50					.000	
55					.000	
—60	.000				.000	
65					.000	
70					.000	
75					.000	
80					.000	
—80						
85						
—90						
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha_M$						
Magn.	s	s	s		s	s
1	.000	+ .015	.000		.000	+ .018
4		— .003	.000		.000	— .004
5		— .009	.000		.000	— .011
6		— .015	.000		.000	— .018
7		— .021	.000		.000	— .026
8	.000	— .027	.000		.000	— .033



SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION.  $\Delta\alpha_s$ 

$\delta$	Bonn 00	Cape 06				
°	s	s				
+90						
85						
80						
+80						
75						
70						
65						
60						
+55	-.004					
50	-.006					
45	-.008					
40	-.012					
35	-.018					
30	-.021					
+25	-.018					
20	-.014					
15	-.008					
10	-.002					
+ 5	+.006					
0	+.014					
- 5						
10						
15						
20						
25		+.021				
-30		+.024				
35						
40		.000				
45		.000				
50		.000				
55		.000				
-60		.000				
65		.000				
70		.000				
75		.000				
80		.000				
-80						
85						
-90						
CORRECTION ON ACCOUNT OF MAGNITUDE EQUATION. $\Delta\alpha^M$						
Magn.	s	s				
1	.000	+.015				
4	.000	-.003				
5	.000	+.003				
6	.000	+.008				
7	.000	+.010				
8	.000	+.011				

## SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION APPLICABLE TO A. G. ZONES.

Kasan		Christiania		Hels.-Gotha		Harvard		Bonn		Lund	
$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$
°	s	°	s	°	s	°	s	°	s	°	s
+75	.000	+65	-.032	+55	+.009	+50	-.038	+40	-.005	+35	.000
76	.000	66	-.026	57	+.005	51	-.028	42	-.005	36	.000
77	.000	67	-.017	59	-.002	52	-.012	44	-.010	37	.000
78	.000	68	.000	61	-.007	53	+.007	46	+.003	38	.000
79	.000	69	+.023	63	-.003	54	+.020	48	+.003	39	.000
+80	.000	+70	+.052	+65	-.002	+55	+.027	+50	+.009	+40	.000

$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$
h	s	h	s	h	s	h	s	h	s	h	s
0	+.057	0	-.030	0	+.032	0	+.002	0	-.023	0	+.008
1	+.053	1	.030	1	+.033	1	+.002	1	.023	1	+.007
2	+.047	2	.030	2	+.032	2	+.002	2	.023	2	+.007
3	+.039	3	.030	3	+.030	3	+.003	3	.023	3	+.008
4	+.031	4	.030	4	+.027	4	+.005	4	.023	4	+.011
5	+.022	5	.030	5	+.024	5	+.009	5	.023	5	+.016
6	+.014	6	-.030	6	+.019	6	+.013	6	-.023	6	+.021
7	+.006	7	.030	7	+.015	7	+.018	7	.023	7	+.022
8	+.001	8	.030	8	+.010	8	+.020	8	.023	8	+.023
9	-.003	9	.030	9	+.006	9	+.020	9	.023	9	+.021
10	-.005	10	.030	10	+.002	10	+.019	10	.023	10	+.016
11	-.006	11	.030	11	-.001	11	+.015	11	.023	11	+.011
12	-.003	12	-.030	12	-.002	12	+.009	12	-.023	12	+.008
13	+.001	13	.030	13	-.003	13	-.001	13	.023	13	+.009
14	+.007	14	.030	14	-.002	14	-.011	14	.023	14	+.015
15	+.015	15	.030	15	.000	15	-.018	15	.023	15	+.023
16	+.023	16	.030	16	+.003	16	-.022	16	.023	16	+.031
17	+.032	17	.030	17	+.006	17	-.022	17	.023	17	+.033
18	+.040	18	-.030	18	+.011	18	-.018	18	-.023	18	+.033
19	+.048	19	.030	19	+.015	19	-.013	19	.023	19	+.030
20	+.053	20	.030	20	+.020	20	-.008	20	.023	20	+.026
21	+.057	21	.030	21	+.024	21	-.003	21	.023	21	+.020
22	+.059	22	.030	22	+.028	22	-.001	22	.023	22	+.014
23	+.060	23	.030	23	+.031	23	+.001	23	.023	23	+.010
24	+.057	24	.030	24	+.032	24	+.002	24	.023	24	+.008

M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$
	s		s		s		s		s		s
4	.000	4	.000	4	-.003	4	-.006	4	-.004	4	-.008
5	.000	5	.000	5	-.010	5	-.018	5	-.011	5	-.025
6	.000	6	.000	6	-.017	6	-.030	6	-.018	6	-.042
7	.000	7	.000	7	-.024	7	-.041	7	-.026	7	-.058
8	.000	8	.000	8	-.031	7.5	-.048	8	-.033	8	-.075
9	.000	9	.000	9	-.038	8	-.058	9	-.041	8.5	-.085
						8.5	-.076			9	-.096
						9	-.105				

## SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION APPLICABLE TO A. G. ZONES.

Leiden		Cambridge		Berlin B.		Berlin A.		Leipsic I		Leipsic II	
$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$
<sup>o</sup> +30	<sup>s</sup> +.001	<sup>o</sup> +25	<sup>s</sup> .000	<sup>o</sup> +20	<sup>s</sup> .000	<sup>o</sup> +15	<sup>s</sup> .000	<sup>o</sup> +10	<sup>s</sup> +.007	<sup>o</sup> +5	<sup>s</sup> .000
31	-.003	+26	.000	21	.000	16	.000	11	+.005	6	.000
32	-.004	+27	.000	22	.000	17	.000	12	+.003	7	.000
33	-.002	+28	.000	23	.000	18	.000	13	+.001	8	.000
34	+.003	+29	.000	24	.000	19	.000	14	-.005	9	.000
+35	+.009	+30	.000	+25	.000	20	.000	+15	-.011	10	.000

$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$
<sup>h</sup> 0	<sup>s</sup> -.023	<sup>h</sup> 0	<sup>s</sup> -.019	<sup>h</sup> 0	<sup>s</sup> +.003	<sup>h</sup> 0	<sup>s</sup> +.007	<sup>h</sup> 0	<sup>s</sup> +.023	<sup>h</sup> 0	<sup>s</sup> -.015
1	-.023	1	-.019	1	+.003	1	+.007	1	.023	1	-.015
2	-.022	2	-.019	2	+.002	2	+.007	2	.023	2	-.013
3	-.021	3	-.018	3	+.001	3	+.006	3	.023	3	-.012
4	-.017	4	-.017	4	+.001	4	+.005	4	.023	4	-.009
5	-.014	5	-.017	5	.000	5	+.005	5	.023	5	-.005
6	-.011	6	-.017	6	-.001	6	+.004	6	+.023	6	-.002
7	-.010	7	-.018	7	-.002	7	+.003	7	.023	7	+.002
8	-.013	8	-.020	8	-.002	8	+.001	8	.023	8	+.007
9	-.018	9	-.022	9	-.003	9	+.001	9	.023	9	+.010
10	-.025	10	-.023	10	-.003	10	.000	10	.023	10	+.013
11	-.028	11	-.022	11	-.003	11	-.001	11	.023	11	+.015
12	-.028	12	-.021	12	-.003	12	-.001	12	+.023	12	+.017
13	-.027	13	-.016	13	-.003	13	-.001	13	.023	13	+.017
14	-.024	14	-.011	14	-.002	14	-.001	14	.023	14	+.016
15	-.021	15	-.002	15	-.001	15	.000	15	.023	15	+.014
16	-.017	16	+.004	16	-.001	16	.000	16	.023	16	+.011
17	-.016	17	+.005	17	.000	17	+.001	17	.023	17	+.007
18	-.015	18	+.005	18	+.001	18	+.002	18	+.023	18	+.004
19	-.017	19	+.002	19	+.002	19	+.003	19	.023	19	.000
20	-.019	20	-.002	20	+.002	20	+.004	20	.023	20	-.005
21	-.020	21	-.007	21	+.003	21	+.005	21	.023	21	-.007
22	-.021	22	-.012	22	+.003	22	+.006	22	.023	22	-.011
23	-.022	23	-.016	23	+.003	23	+.007	23	.023	23	-.013
24	-.023	24	-.019	24	+.003	24	+.007	24	.023	24	-.015

M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$
<sup>s</sup> 4	<sup>s</sup> .000	<sup>s</sup> 4	<sup>s</sup> -.002	<sup>s</sup> 4	<sup>s</sup> -.002	<sup>s</sup> 4	<sup>s</sup> .000	<sup>s</sup> 4	<sup>s</sup> -.008	<sup>s</sup> 4	<sup>s</sup> -.006
5	.000	5	-.006	5	-.006	5	.000	5	-.023	5	-.017
6	.000	6	-.010	6	-.010	6	.000	6	-.038	6	-.028
7	.000	7	-.016	7	-.014	6.5	.000	7	-.053	7	-.040
8	.000	7.5	-.025	8	-.018	7	-.006	8	-.068	8	-.051
9	.000	8	-.038	9	-.022	7.5	-.015	9	-.083	9	-.062
		8.5	-.059			8	-.028				
		9	-.091			8.5	-.047				
						9	-.067				



## SYSTEMATIC CORRECTIONS IN RIGHT-ASCENSION APPLICABLE TO A. G. ZONES.

Albany		Nikolaief		Strassburg		Wien-Ott.	
$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$	$\delta$	$\Delta\alpha_\delta$
<sup>o</sup>	<sup>s</sup>	<sup>o</sup>	<sup>s</sup>	<sup>o</sup>	<sup>s</sup>	<sup>o</sup>	<sup>s</sup>
+ 1	.000	- 2	.000	- 6	.000	- 10	.000
2	.000	- 1	.000	5	.000	9	.000
3	.000	0	.000	4	.000	8	.000
4	.000	+ 1	.000	3	.000	7	.000
+ 5	.000			- 2	.000	- 6	.000
$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$	$\alpha$	$\Delta\alpha_\alpha$
<sup>h</sup>	<sup>s</sup>	<sup>h</sup>	<sup>s</sup>	<sup>h</sup>	<sup>s</sup>	<sup>h</sup>	<sup>s</sup>
0	+ .022	0	.000	0	+ .034	0	+ .023
1	+ .019	1	+ .003	1	+ .034	1	+ .022
2	+ .017	2	+ .005	2	+ .034	2	+ .021
3	+ .014	3	+ .008	3	+ .034	3	+ .019
4	+ .011	4	+ .010	4	+ .034	4	+ .018
5	+ .009	5	+ .012	5	+ .034	5	+ .017
6	+ .007	6	+ .014	6	+ .034	6	+ .016
7	+ .005	7	+ .015	7	+ .034	7	+ .016
8	+ .004	8	+ .015	8	+ .034	8	+ .016
9	+ .005	9	+ .015	9	+ .034	9	+ .016
10	+ .005	10	+ .014	10	+ .034	10	+ .017
11	+ .006	11	+ .012	11	+ .034	11	+ .018
12	+ .008	12	+ .010	12	+ .034	12	+ .019
13	+ .010	13	+ .007	13	+ .034	13	+ .020
14	+ .013	14	+ .005	14	+ .034	14	+ .021
15	+ .016	15	+ .002	15	+ .034	15	+ .023
16	+ .019	16	.000	16	+ .034	16	+ .024
17	+ .021	17	- .002	17	+ .034	17	+ .025
18	+ .023	18	- .004	18	+ .034	18	+ .026
19	+ .025	19	- .005	19	+ .034	19	+ .026
20	+ .026	20	- .005	20	+ .034	20	+ .026
21	+ .026	21	- .005	21	+ .034	21	+ .026
22	+ .025	22	- .004	22	+ .034	22	+ .025
23	+ .024	23	- .002	23	+ .034	23	+ .024
24	+ .022	24	.000	24	+ .034	24	+ .023
M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$	M	$\Delta\alpha_M$
<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>	<sup>s</sup>
4	- .007	4	.000	4	- .005	4	- .001
5	- .020	5	.000	5	- .015	5	- .002
6	- .033	6	.000	6	- .025	6	- .003
7	- .046	7	.000	7	- .035	7	- .005
8	- .059	8	.000	7.5	- .042	8	- .006
9	- .073	9	.000	8	- .055	9	- .007
				8.5	- .071		
				9	- .089		

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_a$ 

	Br 1755 R. (5) Qu. S. Qu. N.		Pi 00	Groomb 10	Grw 15	Kön 20	Schw 28
h	"		"	"	"	"	"
0	+0.01	-.30	+0.09	.00	-.09	+0.05	-.09
1	-.03	-.07	+0.15	-.01	-.07	-.02	+0.01
2	-.07	+0.08	+0.22	-.01	-.04	-.09	+0.11
3	-.12	+0.10	+0.28	-.02	-.02	-.16	+0.20
4	-.15	+0.18	+0.37	-.03	+0.02	-.21	+0.27
5	-.11	+0.36	+0.50	-.03	+0.04	-.25	+0.33
6	-.02	+0.51	+0.59	-.03	+0.07	-.27	+0.37
7	+0.10	+0.61	+0.58	-.03	+0.09	-.27	+0.37
8	+0.25	+0.66	+0.48	-.02	+0.11	-.26	+0.36
9	+0.41	+0.62	+0.25	-.02	+0.11	-.23	+0.32
10	+0.52	+0.45	+0.04	-.01	+0.11	-.18	+0.26
11	+0.31	+0.24	-.04	-.01	+0.10	-.12	+0.18
12	.00	+0.15	-.07	.00	+0.09	-.05	+0.09
13	-.29	+0.12	.00	+0.01	+0.07	+0.02	-.01
14	-.42	+0.12	+0.07	+0.01	+0.04	+0.09	-.11
15	-.34	+0.12	-.01	+0.02	+0.02	+0.16	-.20
16	-.22	+0.11	-.22	+0.03	-.02	+0.21	-.27
17	-.11	+0.02	-.53	+0.03	-.04	+0.25	-.33
18	+0.04	-.12	-.70	+0.03	-.07	+0.27	-.37
19	+0.26	-.20	-.75	+0.03	-.09	+0.27	-.37
20	+0.34	-.40	-.75	+0.02	-.11	+0.26	-.36
21	+0.30	-.47	-.62	+0.02	-.11	+0.23	-.32
22	+0.17	-.49	-.39	+0.01	-.11	+0.18	-.26
23	+0.08	-.45	-.12	+0.01	-.10	+0.12	-.18
24	+0.01	-.30	+0.09	.00	-.09	+0.05	-.09

	Brisb 25	Cape 30	Camb 30	St H 30	Åbo 30	Grw 30
h	"					
0	+0.08	+0.06	-.19	+0.52	-.12	+0.08
1	+0.07	+0.12	-.19	+0.50	-.05	+0.13
2	+0.22	+0.17	-.17	+0.44	+0.02	+0.17
3	+0.34	+0.21	-.14	+0.35	+0.09	+0.20
4	+0.45	+0.24	-.11	+0.24	+0.16	+0.22
5	+0.53	+0.25	-.06	+0.12	+0.21	+0.22
6	+0.57	+0.24	-.01	-.02	+0.25	+0.21
7	+0.57	+0.22	+0.04	-.15	+0.27	+0.18
8	+0.53	+0.18	+0.09	-.28	+0.28	+0.14
9	+0.46	+0.13	+0.13	-.38	+0.26	+0.09
10	+0.35	+0.07	+0.16	-.46	+0.23	+0.04
11	+0.22	.00	+0.18	-.55	+0.18	-.02
12	+0.08	-.06	+0.19	-.52	+0.12	-.08
13	-.07	-.12	+0.19	-.50	+0.05	-.13
14	-.22	-.17	+0.17	-.44	-.02	-.17
15	-.34	-.21	+0.14	-.35	-.09	-.20
16	-.45	-.24	+0.11	-.24	-.16	-.22
17	-.53	-.25	+0.06	-.12	-.21	-.22
18	-.57	-.24	+0.01	+0.02	-.25	-.21
19	-.57	-.22	-.04	+0.15	-.27	-.18
20	-.53	-.18	-.09	+0.28	-.28	-.14
21	-.46	-.13	-.13	+0.38	-.26	-.09
22	-.35	-.07	-.16	+0.46	-.23	-.04
23	-.22	.00	-.18	+0.55	-.18	+0.02
24	-.08	+0.06	-.19	+0.52	-.12	+0.08

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_a$ 

	Dpt 30	Cape 33	Madr 35	Edinb 40	Arm 40
h	"	"	"	"	"
0	-.02 (6)	-.16	-.19	-.09 (7)	-.06
1	+.02	-.17	-.19	-.12	+.01
2	+.06	-.17	-.19	-.14	+.08
3	+.09	-.16	-.17	-.15	+.14
4	+.12	-.13	-.13	-.15	+.20
5	+.14	-.10	-.09	-.14	+.24
6	+.15	-.06	-.05	-.12	+.26
7	+.15	-.02	.00	-.09	+.27
8	+.14	+.03	+.05	-.06	+.26
9	+.12	+.07	+.10	-.02	+.23
10	+.09	+.11	+.14	+.02	+.19
11	+.06	+.14	+.17	+.06	+.13
12	+.02	+.16	+.19	+.09	+.06
13	-.02	+.17	+.19	+.12	-.01
14	-.06	+.17	+.19	+.14	-.08
15	-.09	+.16	+.17	+.15	-.14
16	-.12	+.13	+.13	+.15	-.20
17	-.14	+.10	+.09	+.14	-.24
18	-.15	+.06	+.05	+.12	-.26
19	-.15	+.02	.00	+.09	-.27
20	-.14	-.03	-.05	+.06	-.26
21	-.12	-.07	-.10	+.02	-.23
22	-.09	-.11	-.14	-.02	-.19
23	-.06	-.14	-.17	-.06	-.13
24	-.02	-.16	-.19	-.09	-.06

	Cape 40	Grw 40	Grw 45	Radcl 45	Pulk 45	Paris 45
h	"	"	"	"	"	"
0	+.02	-.18	-.07	+.05 (8)	+.07	-.12
1	+.02	-.18	-.07	+.02	+.06	-.12
2	+.02	-.17	-.07	-.02	+.05	-.11
3	+.02	-.15	-.06	-.06	+.03	-.09
4	+.01	-.12	-.05	-.09	+.01	-.07
5	+.01	-.08	-.03	-.11	-.01	-.04
6	.00	-.03	-.02	-.13	-.03	-.01
7	.00	+.02	.00	-.14	-.05	+.02
8	-.01	+.06	+.02	-.14	-.06	+.05
9	-.01	+.10	+.04	-.13	-.07	+.08
10	-.02	+.14	+.05	-.11	-.08	+.10
11	-.02	+.17	+.07	-.08	-.08	+.12
12	-.02	+.18	+.07	-.05	-.07	+.12
13	-.02	+.18	+.07	-.02	-.06	+.12
14	-.02	+.17	+.07	+.02	-.05	+.11
15	-.02	+.15	+.06	+.06	-.03	+.09
16	-.01	+.12	+.05	+.09	-.01	+.07
17	-.01	+.08	+.03	+.11	+.01	+.04
18	.00	+.03	+.02	+.13	+.03	+.01
19	.00	-.02	.00	+.14	+.05	-.02
20	+.01	-.06	-.02	+.14	+.06	-.05
21	+.01	-.10	-.04	+.13	+.07	-.08
22	+.02	-.14	-.05	+.11	+.08	-.10
23	+.02	-.17	-.07	+.08	+.08	-.12
24	+.02	-.18	-.07	+.05	+.07	-.12



SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_a$ 

	Stgo 50	Grw 50	Gi Z 50	Cape 50	Pulk 55	Carr 55
h	"	"	"	"	"	"
0	-.21	-.06	+.08	-.01	+.04	-.05
1	-.15	-.07	-.02	-.03	+.04	-.02
2	-.08	-.08	-.12	-.05	+.03	+.01
3	-.01	-.08	-.20	-.06	+.02	+.04
4	+.07	-.07	-.28	-.07	+.01	+.07
5	+.14	-.06	-.33	-.07	.00	+.09
6	+.20	-.05	-.36	-.08	-.02	+.11
7	+.25	-.03	-.37	-.07	-.03	+.12
8	+.28	-.01	-.35	-.06	-.04	+.12
9	+.20	+.01	-.31	-.05	-.04	+.12
10	+.28	+.03	-.25	-.03	-.05	+.10
11	+.26	+.05	-.17	-.01	-.05	+.08
12	+.21	+.06	-.08	+.01	-.04	+.05
13	+.15	+.07	+.02	+.03	-.04	+.02
14	+.08	+.08	+.12	+.05	-.03	-.01
15	+.01	+.08	+.20	+.06	-.02	-.04
16	-.07	+.07	+.28	+.07	-.01	-.07
17	-.14	+.06	+.33	+.07	.00	-.09
18	-.20	+.05	+.36	+.08	+.02	-.11
19	-.25	+.03	+.37	+.07	+.03	-.12
20	-.28	+.01	+.35	+.06	+.04	-.12
21	-.20	-.01	+.31	+.05	+.04	-.12
22	-.28	-.03	+.25	+.03	+.05	-.10
23	-.26	-.05	+.17	+.01	+.05	-.08
24	-.21	-.06	+.08	-.01	+.04	-.05

	Stgo 55	Wash 60	Cape 60	Grw 60	Stgo 60	Radcl 60
h	"	"	"	"	"	"
0	-.04	-.19	+.05	+.01	-.24	+.14 (8)
1	-.10	-.21	+.07	+.02	-.24	+.12
2	-.15	-.22	+.09	+.03	-.22	+.10
3	-.19	-.21	+.10	+.04	-.19	+.07
4	-.22	-.19	+.11	+.05	-.15	+.03
5	-.24	-.15	+.11	+.05	-.10	.00
6	-.24	-.11	+.10	+.05	-.04	-.04
7	-.22	-.06	+.08	+.04	+.03	-.08
8	-.18	.00	+.06	+.04	+.09	-.11
9	-.14	+.06	+.04	+.03	+.14	-.13
10	-.09	+.11	+.01	+.02	+.18	-.14
11	-.03	+.15	-.02	.00	+.22	-.14
12	+.04	+.19	-.05	-.01	+.24	-.14
13	+.10	+.21	-.07	-.02	+.24	-.12
14	+.15	+.22	-.09	-.03	+.22	-.10
15	+.19	+.21	-.10	-.04	+.19	-.07
16	+.22	+.19	-.11	-.05	+.15	-.03
17	+.24	+.15	-.11	-.05	+.10	.00
18	+.24	+.11	-.10	-.05	+.04	+.04
19	+.22	+.06	-.08	-.04	-.03	+.08
20	+.18	.00	-.06	-.04	-.09	+.11
21	+.14	-.06	-.04	-.03	-.14	+.13
22	+.09	-.11	-.01	-.02	-.18	+.14
23	+.03	-.15	+.02	.00	-.22	+.14
24	-.04	-.19	+.05	+.01	-.24	+.14

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_a$ 

	Melb 60	Paris 60	Grw 64	Cape 65	Bruss 65	Pulk 65
h	"	"	"	"	"	"
0	-.09	-.09	+.04	-.02	-.08	+.04
1	-.04	-.05	+.03	-.03	-.06	+.04
2	-.04	-.01	+.02	-.04	-.04	+.04
3	-.07	+.04	+.01	-.04	-.02	+.03
4	-.13	+.08	.00	-.04	.00	+.02
5	-.17	+.11	-.01	-.04	+.02	+.01
6	-.17	+.14	-.02	-.04	+.04	.00
7	-.11	+.16	-.03	-.03	+.06	-.01
8	.00	+.16	-.04	-.02	+.08	-.02
9	+.16	+.16	-.04	-.01	+.08	-.03
10	+.33	+.15	-.04	.00	+.09	-.04
11	+.47	+.12	-.04	+.01	+.08	-.04
12	+.55	+.09	-.04	+.02	+.08	-.04
13	+.55	+.05	-.03	+.03	+.06	-.04
14	+.46	+.01	-.02	+.04	+.04	-.04
15	+.29	-.04	-.01	+.04	+.02	-.03
16	+.09	-.08	.00	+.04	.00	-.02
17	-.12	-.11	+.01	+.04	-.02	-.01
18	-.29	-.14	+.02	+.04	-.04	.00
19	-.40	-.16	+.03	+.03	-.06	+.01
20	-.42	-.16	+.04	+.02	-.08	+.02
21	-.38	-.16	+.04	+.01	-.08	+.03
22	-.29	-.15	+.04	.00	-.09	+.04
23	-.18	-.12	+.04	-.01	-.08	+.04
24	-.09	-.09	+.04	-.02	-.08	+.04

	Grw 72	Melb 70	Wash 75	Cord 75	Madr 75	Pulk 75
h	"	"	"	"	"	"
0	.00	-.11	-.02	-.01 (9)	+.13	+.05
1	.00	-.10	-.02	-.03	+.19	+.06
2	.00	-.09	-.01	-.05	+.24	+.06
3	-.01	-.07	.00	-.07	+.27	+.07
4	-.01	-.05	.00	-.08	+.29	+.06
5	-.01	-.02	+.01	-.09	+.28	+.06
6	-.01	+.01	+.02	-.09	+.26	+.05
7	-.01	+.04	+.02	-.09	+.21	+.03
8	-.01	+.06	+.02	-.08	+.16	+.01
9	-.01	+.08	+.03	-.06	+.09	.00
10	.00	+.10	+.03	-.04	+.02	-.02
11	.00	+.11	+.02	-.02	+.06	-.04
12	.00	+.11	+.02	+.01	-.13	-.05
13	.00	+.10	+.02	+.03	-.19	-.06
14	.00	+.09	+.01	+.05	-.24	-.06
15	+.01	+.07	.00	+.07	-.27	-.07
16	+.01	+.05	.00	+.08	-.29	-.06
17	+.01	+.02	-.01	+.09	-.28	-.06
18	+.01	-.01	-.02	+.09	-.26	-.05
19	+.01	-.04	-.02	+.09	-.21	-.03
20	+.01	-.06	-.02	+.08	-.16	-.01
21	+.01	-.08	-.03	+.06	-.09	.00
22	.00	-.10	-.03	+.04	-.02	+.02
23	.00	-.11	.02	+.02	+.06	+.04
24	.00	-.11	-.02	-.01	+.13	+.05

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_a$ 

	Becker 75	Harv 75	Paris 75	AGZ 75	Cape 80 (Rem. 10)			
					I	II	III	IV
h	"	"	"		"	"	"	"
0	-.05	.00	-.14	See tables at end of $\Delta\delta_s$ .	+.01	+.15	+.11	-.02
1	-.04		-.07		+.02	+.16	+.10	-.01
2	-.02		+.01		+.03	+.15	+.09	.00
3	.00		+.08		+.03	+.14	+.08	.00
4	+.02		+.16		+.04	+.12	+.06	+.01
5	+.04	.00	+.21		+.04	+.08	+.03	+.01
6	+.06	.00	+.26		+.04	+.05	.00	+.02
7	+.07		+.28		+.04	+.01	-.02	+.02
8	+.08		+.29		+.03	-.03	-.05	+.02
9	+.08		+.28		+.02	-.07	-.07	+.02
10	+.08		+.25		+.01	-.11	-.09	+.02
11	+.07	.00	+.20		.00	-.13	-.10	+.02
12	+.05	.00	+.14		-.01	-.15	-.11	+.02
13	+.04		+.07		-.02	-.16	-.10	+.01
14	+.02		-.01		-.03	-.15	-.09	.00
15	.00		-.08		-.03	-.14	-.08	.00
16	-.02		-.16		-.04	-.12	-.06	-.01
17	-.04	.00	-.11		-.04	-.08	-.03	-.01
18	-.06	.00	-.26		-.04	-.05	.00	-.02
19	-.07		-.28		-.04	-.01	+.02	-.02
20	-.08		-.29		-.03	+.03	+.05	-.02
21	-.08		-.28		-.02	+.07	+.07	-.02
22	-.08		-.25		-.01	+.11	+.09	-.02
23	-.07		-.20		.00	+.13	+.10	-.02
24	-.05	.00	-.14		+.01	+.15	+.11	-.02
-25° to -35° -35° to -45° -45° to pole								

	Grw 80	Melb 80	Strassb 85	Cape 85	Pulk 85	Radcl 90
h	"	"	"	"	"	"
0	+.06	-.07	+.03	+.12	+.02	+.06
1	+.04	-.09	+.03	+.11	+.01	+.09
2	+.02	-.10	+.02	+.08	+.01	+.11
3	+.02	-.10	+.01	+.06	.00	+.12
4	+.02	-.10	+.01	+.02	-.01	+.12
5	+.04	-.09	.00	-.01	-.01	+.12
6	+.06	-.07	-.01	-.04	-.02	+.11
7	+.07	-.05	-.02	-.07	-.02	+.09
8	+.07	-.03	-.02	-.10	-.03	+.06
9	+.04	.00	-.03	-.11	-.03	+.03
10	.00	+.03	-.03	-.12	-.03	.00
11	-.05	+.05	-.03	-.13	-.02	-.03
12	-.10	+.07	-.03	-.12	-.02	-.06
13	-.14	+.09	-.03	-.11	-.01	-.09
14	-.16	+.10	-.02	-.08	-.01	-.11
15	-.16	+.10	-.01	-.06	.00	-.12
16	-.13	+.10	-.01	-.02	+.01	-.12
17	-.08	+.09	.00	+.01	+.01	-.12
18	-.02	+.07	+.01	+.04	+.02	-.11
19	+.03	+.05	+.02	+.07	+.02	-.09
20	+.08	+.03	+.02	+.10	+.03	-.06
21	+.10	.00	+.03	+.11	+.03	-.03
22	+.10	-.03	+.03	+.12	+.03	.00
23	+.08	-.05	+.03	+.13	+.02	+.03
24	+.06	-.07	+.03	+.12	+.02	+.06



SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_a$ 

	Cinc 90	Cape 90	Grw 90	Berl 90	Madn 90	Melb 90
h	"	"	"	"	"	"
0	-.18	-.06	.00	+.06	-.21	+.19
1	-.18	-.06	+.01	+.05	-.12	+.23
2	-.15	-.06	+.02	+.04	-.04	+.26
3	-.10	-.05	+.02	+.03	+.03	+.27
4	-.04	-.04	+.02	+.01	+.08	+.26
5	-.01	-.03	+.03	.00	+.10	+.24
6	+.02	-.01	+.03	-.02	+.11	+.20
7	+.04	+.01	+.02	-.04	+.11	+.14
8	+.04	+.02	+.02	-.05	+.11	+.08
9	+.04	+.04	+.02	-.06	+.13	+.01
10	+.04	+.05	+.01	-.06	+.15	-.06
11	+.04	+.06	.00	-.06	+.18	-.13
12	+.05	+.06	.00	-.06	+.21	-.19
13	+.08	+.06	-.01	-.05	+.22	-.23
14	+.11	+.06	-.02	-.04	+.21	-.26
15	+.17	+.05	-.02	-.03	+.17	-.27
16	+.20	+.04	-.02	-.01	+.10	-.26
17	+.19	+.03	-.03	.00	.00	-.24
18	+.15	+.01	-.03	+.02	-.11	-.20
19	+.09	-.01	-.02	+.04	-.21	-.14
20	+.01	-.02	-.02	+.05	-.29	-.08
21	-.07	-.04	-.02	+.06	-.33	-.01
22	-.14	-.05	-.01	+.06	-.32	+.06
23	-.17	-.06	.00	+.06	-.28	+.13
24	-.18	-.06	.00	+.06	-.21	+.19

	Mün 92	Lick 95	Berl 95	W-Ott 97	Alb 00	Lick 00
h	"	"	"	"	"	"
0	+.01	+.05	+.08	+.07	-.06	+.08
1	+.01	+.06	+.07	+.13	-.07	+.09
2	.00	+.07	+.05	+.18	-.07	+.10
3	.00	+.07	+.03	+.21	-.07	+.10
4	.00	+.07	+.01	+.23	-.06	+.09
5	-.01	+.06	-.01	+.24	-.06	+.08
6	-.01	+.05	-.04	+.23	-.04	+.06
7	-.01	+.04	-.06	+.20	-.02	+.04
8	-.01	+.02	-.07	+.16	.00	+.02
9	-.01	.00	-.08	+.11	+.01	-.01
10	-.01	-.02	-.09	+.05	+.03	-.03
11	-.01	-.04	-.09	-.01	+.05	-.06
12	-.01	-.05	-.08	-.07	+.06	-.08
13	-.01	-.06	-.07	-.13	+.07	-.09
14	.00	-.07	-.05	-.18	+.07	-.10
15	.00	-.07	-.03	-.21	+.07	-.10
16	.00	-.07	-.01	-.23	+.06	-.09
17	+.01	-.06	+.01	-.24	+.06	-.08
18	+.01	-.05	+.04	-.23	+.04	-.06
19	+.01	-.04	+.06	-.20	+.02	-.04
20	+.01	-.02	+.07	-.16	.00	-.02
21	+.01	.00	+.08	-.11	-.01	+.01
22	+.01	+.02	+.09	-.05	-.03	+.03
23	+.01	+.04	+.09	+.01	-.05	+.06
24	+.01	+.05	+.08	+.07	-.06	+.08

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_a$ 

	Cinc 00	Bonn 00	Cape 00	Cape 06
h	"	"	"	"
0	.00	+.11	.00 (25)	+.03
1	.00	+.09		+.06
2	.00	+.07		+.09
3	.00	+.04		+.11
4	.00	+.01		+.12
5	.00	-.02	.00	+.12
6	.00	-.05	.00	+.12
7	-.03	-.08		+.11
8	-.10	-.10		+.09
9	-.14	-.11		+.06
10	-.17	-.12		+.03
11	-.17	-.11	.00	.00
12	-.15	-.11	.00	-.03
13	-.10	-.09		-.06
14	-.02	-.07		-.09
15	+.05	-.04		-.11
16	+.12	-.01		-.12
17	+.18	+.02	.00	-.12
18	+.20	+.05	.00	-.12
19	+.18	+.08		-.11
20	+.15	+.10		-.09
21	+.10	+.11		-.06
22	+.06	+.12		-.03
23	+.03	+.11		.00
24	.00	+.11	.00	+.03

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Br 1755	Pi 00	Groomb 10	Grw 15	Kön 20	Schw 28
0	See Remark 11.	"	"	"	"	"
+90		+0.44	0.00	0.00	0.00 (12)	-0.18
85		+0.43	+0.12	-0.05	0.00	-0.18
80		+0.36	+0.14	-0.14	0.00	-0.18
75		+0.20	-0.18	-0.26	0.00	-0.19
70		-0.02	-0.16	-0.37	+0.03	-0.22
65		-0.08	-0.09	-0.47	+0.08	
60		-0.09	-0.04	-0.56	+0.08	
+55		-0.11	-0.01	-0.63	+0.04	
50		-0.23	0.00	-0.68	-0.03	
45		-0.45	+0.04	-0.74	-0.04	
40		-0.76	+0.08	-0.78	0.00	
35		-1.08		-0.82	0.00	
30		-1.31		-0.81	0.00	
+25		-1.52		-0.77	0.00	
20		-1.89		-0.72	-0.05	
15		-2.17		-0.70	-0.12	
10		-2.27		-0.71	-0.09	
+ 5		-2.28		-0.73	-0.01	
0		-2.32		-0.78	+0.05	
- 5		-2.39		-0.84	+0.08	
10		-2.39		-0.92	+0.05	
15		-2.22		-1.01	+0.01	
20		-1.95		-1.10		
25		-1.68		-1.20		
-30		-1.51		-1.30		
35		-1.42				
40		-1.39				
45		-1.40				
50						
55						
-60						
65						
70						
75						
80						
85						
-90						



SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Brisb 25	Cape 30	Camb 30	St H 30	Åbo 30	Grw 30
°	"	"	"	"	"	"
+90			+0.09		0.00	+0.40
85			+0.04		-0.04	+0.28
80			-0.01		-0.08	+0.15
75			-0.06		-0.09	+0.03
70			-0.14		-0.06	-0.03
65			-0.30		-0.05	-0.07
60			-0.40		-0.05	-0.12
+55			-0.45	+1.64	-0.06	-0.21
50			-0.53	+1.26	-0.09	-0.37
45			-0.72	+1.06	-0.13	-0.62
40			-0.77	+0.98	-0.18	-0.86
35			-0.74	+0.99	-0.24	-1.03
30			-0.55	+1.09	-0.31	-1.11
+25			-0.26	+1.32	-0.38	-1.18
20			-0.20	+1.37	-0.43	-1.30
15			-0.22	+1.26	-0.47	-1.46
10		-0.20	-0.25	+1.02	-0.50	-1.53
+5		-0.14	-0.27	+0.91	-0.53	-1.55
0		-0.06	-0.40	+0.92	-0.55	-1.53
-5		+0.02	-0.68	+1.01	-0.59	-1.56
10		+0.10	-0.93	+1.01	-0.67	-1.70
15		+0.18	-1.12	+0.72	-0.77	-2.12
20		+0.24	-1.25	-0.03	-0.91	-2.58
25		+0.28	-1.38	-0.35		-2.59
-30	+0.17	+0.30	-1.50	-0.18		-2.32
35	+0.08	+0.26		+0.33		
40	+0.06	+0.18		+0.52		
45	+0.16	+0.04		+0.48		
50	+0.34	-0.14		+0.27		
55	+0.56	-0.30		+0.13		
-60	+0.97	-0.38		+0.10		
65	+1.20	-0.40		+0.22		
70	+1.03	-0.32		+0.55		
75	+0.58	-0.16		+0.75		
80	+0.32	0.00		+0.73		
85	+0.13					
-90						

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Dpt 30	Cape 33 (13)	Madr 35	Edinb 40 <sub>1</sub>	Edinb 40 <sub>2</sub>	Arm 40
0	"	"	"	"	"	"
+90	0.00		+0.10	-0.16	-0.13	+0.23
85	-0.04		+0.09	-0.05 (7)	-0.04 (7)	+0.24
80	-0.09		+0.09	+0.05	+0.09	+0.20
75	-0.14		+0.10	+0.14	+0.16	+0.09
70	-0.20		+0.15	+0.20	+0.15	-0.07
65	-0.26		+0.28	+0.22	+0.07	-0.27
60	-0.33		+0.49	+0.19	-0.04	-0.22
+55	-0.41		+0.73	+0.14	-0.09	-0.26
50	-0.43		+0.77	+0.06	-0.10	-0.42
45	-0.38		+0.68	-0.04	-0.06	-0.54
40	-0.32	-0.08	+0.63	-0.10	-0.03	-0.61
35	-0.27	+0.14	+0.60	-0.13	-0.02	-0.62
30	-0.24	+0.29	+0.44	-0.13	-0.03	-0.58
+25	-0.22	+0.40	+0.16	-0.13	-0.07	-0.54
20	-0.25	+0.38	-0.05	-0.11	-0.13	-0.57
15	-0.34	-0.32	-0.19	-0.05	-0.14	-0.63
10	-0.51	-0.22	-0.26	-0.06	-0.11	-0.75
+5	-0.68	-0.12	-0.26	-0.17	-0.06	-0.89
0	-0.77	-0.11	-0.22	-0.41	-0.07	-0.92
-5	-0.83	-0.21	-0.11	-0.66	- .17	-0.86
10	-0.88	-0.14	-0.02	-0.91	- .38	-0.86
15	-0.92	+0.20	+0.05	-1.15	- .62	-0.83
20	-0.97	+0.53	+0.09	-1.40	- .87	-0.56
25		+0.72	+0.17			-0.12
-30		+0.79	+0.33			+0.29
35		+0.79	+0.75			
40		+0.51	+1.00			
45		-0.06	+1.15			
50		-0.25	+1.23			
55		-0.23	+1.24			
-60		-0.25	+1.20			
65		-0.30	+1.13			
70		-0.16				
75		-0.02				
80		0.00				
85		0.00				
-90		0.00				

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Cape 40	Grw 40	Grw 45	Radcl 45	Pulk 45	Paris 45
0	"	"	"	"	"	"
+90		-0.02	-0.10	+0.25 (8)	0.00	-0.08
85		-0.07	-0.01	+0.48	0.00	-0.07
80		-0.10	+0.04	+0.72	0.00	-0.06
75		-0.11	+0.02	+0.77	0.00	-0.06
70		-0.11	-0.04	+0.56	+0.04	-0.06
65		-0.09	+0.01	+0.29	+0.10	-0.10
60		-0.07	+0.07	+0.23	+0.17	-0.12
+55		-0.04	+0.03	+0.15	+0.21	-0.10
50		-0.02	-0.09	+0.03	+0.23	-0.04
45	-0.69	+0.01	-0.14	-0.21	+0.26	+0.03
40	-0.48	+0.03	-0.11	-0.46	+0.32	+0.06
35	-0.28	+0.06	+0.01	-0.60	+0.36	+0.06
30	-0.13	+0.08	+0.09	-0.68	+0.36	+0.01
+25	-0.13	+0.11	+0.10	-0.80	+0.35	0.00
20	-0.20	+0.13	+0.07	-0.80	+0.34	0.00
15	-0.20	+0.12	+0.01	-0.62	+0.33	-0.04
10	-0.08	+0.15	-0.02	-0.36	+0.34	-0.12
+5	+0.16	+0.22	-0.02	-0.10	+0.35	-0.15
0	+0.52	+0.28	+0.04	+0.19	+0.38	-0.17
-5	+0.65	+0.36	+0.07	+0.35	+0.42	-0.16
10	+0.56	+0.40	+0.08	+0.35	+0.47	-0.13
15	+0.31	+0.42	+0.04	+0.26	+0.53	-0.02
20	+0.20	+0.43	-0.01	+0.03	+0.60	+0.17
25	+0.18	+0.38	+0.04	-0.40		+0.40
-30	+0.10	+0.18	+0.40			+0.66
35	-0.04					
40	-0.22					
45	-0.38					
50	-0.52					
55	-0.64					
-60	-0.74					
65	-0.79					
70	-0.71					
75	-0.42					
80	-0.21					
85	-0.07					
-90	0.00					



SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Stgo 50	Grw 50	Gl Z 50	Cape 50	Pulk 55	Carr 55
°	"	"	"	"	"	"
+90		-0.02			-0.31	-0.41
85		-0.03			-0.26	-0.85
80		-0.04			-0.16	-0.85
75		-0.06			-0.03	
70		-0.08			0.00	
65		-0.12			0.00	
60		-0.18			+0.05	
+55		-0.21			+0.25	
50		-0.18			+0.04	
45		-0.11			+0.18	
40	+0.17	-0.07			+0.32	
35	+0.39	-0.06			+0.41	
30	+0.56	-0.02			+0.41	
+25	+0.69	+0.06			+0.12	
20	+0.78	+0.11			+0.33	
15	+0.84	+0.12			+0.41	
10	+0.82	+0.08			+0.40	
+ 5	+0.85	0.00			+0.35	
0	+0.93	-0.07		-0.28	+0.30	
- 5	+0.99	-0.08		-0.35	+0.32	
10	+1.02	-0.05		-0.29	+0.46	
15	+1.00	-0.02		-0.09	+0.57	
20	+0.95	0.00		+0.01	+0.58	
25	+0.82	+0.02		+0.05		
-30	+0.56	+0.05		+0.03		
35	+0.25			-0.01		
40	+0.13			-0.08		
45	+0.27			-0.17		
50	+0.36			-0.36		
55	+0.36			-0.32		
-60	+0.19			-0.17		
65	0.00		+0.10	-0.23		
70	0.00		+0.13	-0.37		
75	0.00		-0.07	-0.31		
80	0.00		-0.19	-0.12		
85	0.00		+0.06	-0.03		
-90	0.00		+0.12	0.00		

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Stgo 55	Wash 60	Cape 60	Grw 60	Stgo 60	Radcl 60
°	"	"	"	"	"	"
+90		0.00		0.00		+0.46 (8)
85		+0.08		+0.06		+0.75
80		+0.20		+0.13		+1.01
75		+0.31		+0.19		+1.06
70		+0.28		+0.25		+0.95
65		+0.19		+0.29		+0.78
60		+0.22		+0.31		+c.60
+55		+0.36		+0.30		+0.43
50		+0.40		+0.26		+0.24
45		+0.31	+0.15	+0.18		-0.06
40		+0.18	+0.05	+0.08		-0.45
35		+0.14	-0.05	+0.06		-0.70
30		+0.14	-0.16	+0.14	0.00	-0.76
+25		+0.13	-0.24	+0.26	-0.06	-0.69
20	+0.20	+0.09	-0.28	+0.29	-0.14	-0.49
15	+0.14	-0.01	-0.30	+0.28	-0.28	-0.29
10	+0.10	-0.20	-0.30	+0.23	-0.46	-0.08
+5	+0.06	-0.27	-0.29	+0.12	-0.56	+0.12
0	+0.04	-0.25	-0.29	+0.04	-0.52	+0.32
-5	+0.03	-0.18	-0.31	+0.02	-0.30	+0.53
10	-0.01	-0.10	-0.34	+0.04	-0.12	+0.73
15	-0.11	-0.04	-0.26	+0.10	-0.14	+0.79
20	-0.25	0.00	-0.05	+0.20	-0.20	+0.70
25	-0.35	+0.08	+0.04	+0.32	-0.12	+0.45
-30	-0.34	+0.30	+0.02	+0.46	+0.21	+0.20
35	-0.19	+0.64	0.00		+0.63	
40	-0.07		-0.04		+0.83	
45	-0.04		-0.06		+0.88	
50	-0.07		-0.06		+0.76	
55	-0.18		-0.04		+0.55	
-60	-0.35		0.00		+0.37	
65			+0.05		+0.25	
70			+0.08		+0.15	
75			+0.10		+0.08	
80	-0.50		+0.10		+0.03	
85	-0.38		+0.09		0.00	
-90			0.00			

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Melb 60 (14)	Paris 60	Grw 64	Cape 65	Bruss 65	Pulk 65
°	"	"	"	"	"	"
+90		0.00	0.00		+0.34	0.00
85		0.00	0.00		+0.44	0.00
80		0.00	0.00		+0.50	0.00
75		0.00	0.00		+0.54	0.00
70		0.00	-0.02		+0.55	0.00
65		+0.02	-0.04		+0.52	0.00
60		+0.09	-0.04		+0.42	+0.04
+55		+0.16	0.00		+0.20	+0.11
50		+0.16	+0.06		0.00	+0.21
45		+0.03	+0.06	+0.22	-0.10	+0.26
40	+0.38	-0.10	+0.06	+0.17	-0.12	+0.27
35	+0.34	-0.17	+0.06	+0.12	-0.01	+0.24
30	+0.30	-0.20	+0.10	+0.07	+0.08	+0.23
+25	+0.28	-0.23	+0.12	+0.02	+0.09	+0.24
20	+0.28	-0.26	+0.11	-0.05	+0.07	+0.31
15	+0.35	-0.28	+0.09	-0.17	+0.04	+0.36
10	+0.50	-0.30	+0.05	-0.23	+0.03	+0.35
+ 5	+0.78	-0.29	0.00	-0.25	+0.01	+0.33
0	+0.90	-0.27	-0.04	-0.27	-0.01	+0.35
- 5	+0.90	-0.23	-0.05	-0.29	-0.01	+0.40
10	+0.76	-0.18	0.00	-0.25	+0.01	+0.46
15	+0.55	-0.10	+0.11	-0.15	+0.07	+0.54
20	+0.44	+0.08	+0.26	+0.01	+0.16	+0.64
25	+0.41	+0.37	+0.46	+0.07	+0.26	
-30	+0.40	+0.80	+0.66	0.00	+0.45	
35	+0.38			-0.03		
40	+0.30			+0.02		
45	+0.16			+0.09		
50	-0.05			+0.13		
55	-0.29			+0.14		
-60	-0.48			+0.14		
65	-0.54			+0.16		
70	-0.52			+0.17		
75	-0.45			+0.19		
80	-0.33			+0.21		
85	-0.17			+0.23		
-90	0.00			+0.25		



SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Grw 72	Melb 70	Wash 75	Cord 75 (9)	Madr 75 (15)	Pulk 75
0	"	"	"	"	"	"
+90	0.00		-0.07		+0.46	-0.01
85	-0.04		-0.04		+0.56	-0.05
80	-0.09		+0.05		+0.31	-0.10
75	-0.14		+0.09		-0.05	-0.05
70	-0.20		+0.09		-0.68	+0.12
65	-0.28		+0.11		-0.75	-0.02
60	-0.36		+0.15		+0.55	+0.02
+55	-0.44		+0.18		-0.21	+0.07
50	-0.49		+0.18		-0.38	+0.08
45	-0.53	+1.00	+0.11		-0.39	+0.09
40	-0.54	+0.73	-0.10		-0.44	+0.12
35	-0.54	+0.44	-0.25		-0.34	+0.09
30	-0.52	+0.16	-0.30	-0.90	+0.42	+0.02
+25	-0.50	-0.13	-0.29	-0.82	+0.56	0.00
20	-0.52	-0.37	-0.29	-0.72	+0.75	+0.03
15	-0.59	-0.43	-0.29	-0.63	+0.29	+0.09
10	-0.74	-0.34	-0.28	-0.54	-0.50	+0.14
+5	-0.95	-0.12	-0.28	-0.45	-0.67	+0.13
0	-1.15	-0.13	-0.27	-0.41	+0.58	+0.07
-5	-1.26	-0.25	-0.28	-0.41	-0.16	+0.10
10	-1.34	-0.36	-0.31	-0.40	-0.23	+0.24
15	-1.46	-0.41	-0.33	-0.32	-0.17	+0.43
20	-1.70	-0.43	-0.30	-0.20	-0.20	+0.65
25	-2.09	-0.41	-0.21	-0.10	-0.08	
-30	-2.53	-0.42	-0.06	-0.16	+0.69	
35		-0.47	+0.22	-0.26	+0.95	
40		-0.63	+0.71	-0.23	+1.11	
45		-0.63		-0.18	+0.75	
50		-0.51		-0.14	+0.13	
55		-0.45		-0.11	+0.16	
-60		-0.46		-0.08	(+1.60)	
65		-0.46		-0.06	(+1.20)	
70		-0.42		-0.04	(+2.00)	
75		-0.31		-0.03		
80		-0.18		-0.02		
85		-0.08		-0.01		
-90		0.00		0.00		

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_8$ 

$\delta$	Becker 75	Harv 75	Paris 75	AGZ 75	Cape 80	Grw 80
°	"	"	"		"	"
+90	0.00	0.00	+0.06			0.00
85	+0.03	+0.02	+0.02			+0.02
80	+0.09	+0.06	-0.03			+0.05
75	+0.18	+0.10	-0.07			+0.11
70	+0.27	+0.09	-0.11			+0.17
65	+0.30	+0.05	-0.15			+0.21
60	+0.30	-0.05	-0.20			+0.21
+55	+0.26	-0.14	-0.25			+0.18
50	+0.19	-0.11	-0.34			+0.10
45	+0.16	+0.10	-0.41			+0.01
40	+0.18	+0.26	-0.44		+0.53	-0.04
35	+0.21	+0.28	-0.42		+0.02	-0.06
30	+0.22	+0.24	-0.36		-0.27	-0.01
+25	+0.22	+0.23	-0.31	See tables at end.	-0.30	+0.11
20	+0.21	+0.31	-0.27		-0.23	+0.23
15	+0.17	+0.29	-0.27		-0.22	+0.28
10	+0.10	+0.06	-0.28		-0.22	+0.26
+5	+0.06	0.00	-0.25		-0.17	+0.15
0	+0.06	+0.12	-0.20		-0.08	+0.11
-5	+0.11	+0.25	-0.18		+0.02	+0.22
10	+0.25	+0.31	-0.17		+0.08	+0.34
15	+0.39	+0.32	-0.15		+0.08	+0.44
20	+0.52	+0.33	-0.04		+0.06	+0.51
25	+0.65	+0.36	+0.19		-0.05	+0.61
-30	+0.79	+0.42	+0.55		-0.22	+0.79
35		+0.51			-0.29	
40					-0.26	
45					-0.10	
50					+0.04	
55					+0.12	
-60					+0.16	
65					+0.17	
70					+0.25	
75					+0.43	
80					+0.44	
85					+0.26	
-90					0.00	

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

	Melb 80	Strassb 85	Cape 85	Pulk 85	Radcl 90	Cinc 90
°	"	"	"	"	"	"
+90		0.00		0.00	-0.18	
85		0.00		0.00	-0.07	
80		0.00		0.00	0.00	
75		-0.02		+0.02	0.00	-0.22
70		-0.06		+0.04	-0.10	-0.19
65		-0.07		+0.05	-0.27	-0.18
60		-0.07		+0.06	-0.46	-0.19
+55		-0.06		+0.04	-0.49	-0.22
50		-0.07		+0.04	-0.39	-0.24
45		-0.09	-1.03	+0.05	-0.39	-0.21
40	+0.86	-0.08	-0.81	+0.09	-0.45	-0.12
35	+0.46	-0.06	-0.62	+0.14	-0.58	+0.05
30	+0.06	-0.05	-0.47	+0.18	-0.68	+0.10
+25	-0.27	-0.08	-0.37	+0.22	-0.74	-0.01
20	-0.42	-0.10	-0.31	+0.24	-0.75	-0.11
15	-0.43	-0.08	-0.30	+0.25	-0.77	-0.06
10	-0.40	-0.02	-0.29	+0.25	-0.77	+0.07
+5	-0.26	0.00	-0.28	+0.24	-0.72	+0.17
0	-0.32	0.00	-0.27	+0.22	-0.62	+0.24
-5	-0.53	0.00	-0.26	+0.19	-0.57	+0.28
10	-0.67	0.00	-0.26	+0.15	-0.51	+0.32
15	-0.69	-0.03	-0.27	+0.06	-0.45	+0.38
20	-0.62	-0.08	-0.28	-0.14	-0.40	+0.53
25	-0.63	-0.13	-0.28		-0.36	+0.79
-30	-0.68	-0.18	-0.24		-0.36	+1.14
35	-0.69		-0.19			
40	-0.71		-0.16			
45	-0.71		-0.17			
50	-0.67		-0.24			
55	-0.60		-0.30			
-60	-0.45		-0.29			
65	-0.28		-0.20			
70	-0.17		-0.12			
75	-0.10		-0.06			
80	-0.05		-0.03			
85	-0.02		-0.01			
-90	0.00		0.00			



SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Cape 90	Grw 90	Berl 90	Madn 90	Melb 90	Mün 92
0	"	"	"	"	"	"
+90		-0.10	0.00	0.00		0.00
85		-0.10	+0.03	-0.06		-0.05
80		-0.10	+0.07	-0.10		-0.14
75		-0.09	+0.13	-0.13		-0.24
70		-0.06	+0.16	-0.14		-0.28
65		-0.01	+0.15	-0.14		-0.25
60		+0.01	+0.13	-0.14		-0.24
+55		-0.03	+0.09	-0.12		-0.32
50		-0.09	+0.04	-0.08		-0.44
45	-0.30	-0.10	-0.01	-0.02		-0.63
40	-0.07	-0.08	-0.06	+0.10	-1.11	-0.78
35	+0.02	-0.06	-0.12	+0.26	-1.07	
30	0.00	-0.05	-0.14	+0.32	-1.09	
+25	-0.05	-0.04	-0.11	+0.31	-1.18	
20	-0.06	-0.02	-0.08	+0.28	-1.26	
15	-0.04	0.00	-0.06	+0.29	-1.30	-0.70
10	-0.01	+0.02	-0.03	+0.34	-1.28	-0.74
+5	-0.02	+0.03	0.00	+0.38	-1.18	-0.79
0	-0.05	+0.04	+0.03	+0.38	-1.00	-0.84
-5	-0.09	+0.06	+0.05	+0.34	-0.90	-0.89
10	-0.11	+0.12	+0.10	+0.29	-0.85	-0.97
15	-0.10	+0.21	+0.22	+0.23	-0.83	-1.05
20	-0.08	+0.34	+0.42	+0.18	-0.86	
25	-0.01	+0.50	+0.73		-0.93	
-30	+0.04	+0.70	+1.16		-1.00	
35	+0.05				-0.99	
40	+0.02				-0.88	
45	-0.02				-0.79	
50	-0.03				-0.75	
55	0.00				-0.70	
-60	+0.02				-0.60	
65	+0.04				-0.47	
70	+0.04				-0.31	
75	+0.03				-0.18	
80	+0.01				-0.09	
85	0.00				-0.03	
-90	0.00				0.00	

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Lick 95	Berl 95	W-Ott 97	Alb 00	Lick 00	Cinc 00
°	"	"	"	"	"	"
+90	0.00	+0.09	0.00	-0.08	+0.08	0.00
85	+0.05	+0.07	0.00	+0.02	+0.08	+0.03
80	+0.08	+0.06	0.00	+0.18		+0.09
75	+0.07	+0.05	0.00	+0.31		+0.15
70	+0.05	+0.07	0.00	+0.37		+0.21
65	0.00	+0.11	+0.02	+0.36		+0.26
60		+0.15	+0.07	+0.29		+0.29
55		+0.14	+0.06	+0.17		+0.28
50		+0.07	-0.03	+0.10		+0.24
45	+0.09	-0.04	-0.19	+0.06		+0.18
40	0.00	-0.12		+0.06		+0.05
35	-0.17	-0.17		+0.04		-0.13
30	-0.25	-0.19	-0.85	-0.01		-0.24
+25	-0.23	-0.15	-1.01	-0.06		-0.35
20	-0.14	-0.11	-1.07	-0.09		-0.39
15	-0.10	-0.09	-1.05	-0.10		-0.36
10	-0.09	-0.10	-0.98	-0.09		-0.25
+ 5	-0.10	-0.07	-0.85	-0.05		-0.07
0	-0.05	-0.03	-0.72	+0.01	-0.21	+0.12
- 5	+0.04	+0.06	-0.64	0.00	-0.24	
10	+0.14	+0.13	-0.59	-0.05	-0.27	
15	+0.21	+0.21	-0.56	-0.08	-0.26	
20	+0.26	+0.29	-0.52	-0.06	-0.15	
25	+0.32	+0.37	-0.46	-0.02	+0.12	
-30	+0.43		-0.35	+0.06	-0.04	
35	+0.65			+0.15	+0.13	
40	+1.12			+0.25	+0.36	
45					+0.61	
50						
55						
-60						
65						
70						
75						
80						
85						
-90						

SYSTEMATIC CORRECTIONS IN DECLINATION.  $\Delta\delta_s$ 

$\delta$	Bonn 00	Cape 00	Cape 06
0	"	"	"
+90			
85			
80			
75		Rem. (25)	
70			
65			
60			
+55	+0.20		
50	+0.11		
45	-0.01		
40	-0.14		
35	-0.25		
30	-0.31		
+25	-0.32		
20	-0.27		-0.22
15	-0.19		-0.07
10	-0.12		+0.06
+ 5	-0.06		+0.11
0	-0.02		+0.06
- 5			-0.04
10			-0.08
15			-0.09
20			-0.07
25			-0.02
-30			0.00
35			-0.19
40		-0.29	-0.29
45		-0.36	-0.36
50		-0.40	-0.40
55		-0.40	-0.40
-60		-0.40	-0.40
65		-0.40	-0.40
70		-0.39	-0.39
75		-0.36	-0.36
80		-0.29	-0.30
85			-0.22
-90			



## SYSTEMATIC CORRECTIONS IN DECLINATION APPLICABLE TO A. G. ZONES.

Kasan		Christiania		Hels.-Gotha				Harvard		Bonn				Lund	
$\delta$	$\Delta\delta$	$\delta$	$\Delta\delta$	$\delta$	$\Delta\delta$	$\delta$	$\Delta\delta$	$\delta$	$\Delta\delta$	$\delta$	$\Delta\delta$	$\delta$	$\Delta\delta$	$\delta$	$\Delta\delta$
° "		° "		° "		° "		° "		° "		° "		° "	
+75	-.25	+65	+.22	+55	-.05	+61	-.12	+50	-.37	+40	+.20	+46	+.07	+35	-.30
76	.25	66	+.22	56	+.11	62	-.02	51	-.37	41	+.20	47	+.16	36	-.22
77	.25	67	+.22	57	+.12	63	+.06	52	-.37	42	+.18	48	+.34	37	-.12
78	.25	68	+.22	58	+.04	64	+.06	53	-.37	43	+.14	49	+.36	38	-.15
79	.25	69	+.22	59	-.10	+65	-.01	54	-.37	44	+.07	+50	+.28	39	-.22
+80	-.25	+70	+.22	+60	-.18			+55	-.37	+45	+.04			+40	-.28

$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$
h		h		h		h		h		h	
0	.00	0	+.15	0	+.13	0	-.01	0	+.02	0	+.08
1	+.06	1	+.11	1	+.08	1	-.05	1	+.05	1	+.10
2	+.11	2	+.04	2	+.03	2	-.09	2	+.07	2	+.06
3	+.15	3	-.06	3	-.02	3	-.12	3	+.09	3	.00
4	+.18	4	-.19	4	-.07	4	-.14	4	+.10	4	-.09
5	+.20	5	-.28	5	-.12	5	-.16	5	+.11	5	-.16
6	+.21	6	-.37	6	-.16	6	-.16	6	+.11	6	-.19
7	+.20	7	-.46	7	-.19	7	-.15	7	+.10	7	-.17
8	+.14	8	-.51	8	-.20	8	-.14	8	+.08	8	-.10
9	+.02	9	-.52	9	-.20	9	-.11	9	+.06	9	-.02
10	-.14	10	-.51	10	-.19	10	-.07	10	+.04	10	+.04
11	-.20	11	-.46	11	-.17	11	-.03	11	+.01	11	+.07
12	-.20	12	-.36	12	-.13	12	+.01	12	-.02	12	+.09
13	-.17	13	-.21	13	-.08	13	+.05	13	-.05	13	+.10
14	-.12	14	+.03	14	-.03	14	+.09	14	-.07	14	+.09
15	-.05	15	+.15	15	+.02	15	+.12	15	-.09	15	+.07
16	+.03	16	+.21	16	+.07	16	+.14	16	-.10	16	+.05
17	+.07	17	+.22	17	+.12	17	+.16	17	-.11	17	+.01
18	+.10	18	+.22	18	+.16	18	+.16	18	-.11	18	-.03
19	+.05	19	+.22	19	+.19	19	+.15	19	-.10	19	-.05
20	-.01	20	+.22	20	+.20	20	+.14	20	-.08	20	-.06
21	-.08	21	+.21	21	+.20	21	+.11	21	-.06	21	-.05
22	-.08	22	+.20	22	+.19	22	+.07	22	-.04	22	-.03
23	-.06	23	+.18	23	+.17	23	+.03	23	-.01	23	+.02
24	.00	24	+.15	24	+.13	24	-.01	24	+.02	24	+.08

## SYSTEMATIC CORRECTIONS IN DECLINATION APPLICABLE TO A. G. ZONES.

Leiden		Cambridge		Berlin B.		Berlin A.		Leipsic I		Leipsic II	
$\delta$	$\Delta\delta_\delta$	$\delta$	$\Delta\delta_\delta$	$\delta$	$\Delta\delta_\delta$	$\delta$	$\Delta\delta_\delta$	$\delta$	$\Delta\delta_\delta$	$\delta$	$\Delta\delta_\delta$
° "		° "		° "		° "		° "		° "	
+30	-.30	+25	-.28	+20	+.24	+15	-.32	+10	-.05	+5	-.05
31	-.14	26	.00	21	+.13	16	-.19	11	+.13	6	-.05
32	+.01	27	+.22	22	+.02	17	-.30	12	+.29	7	-.05
33	+.10	28	+.32	23	-.08	18	+.14	13	+.41	8	-.05
34	+.08	29	+.31	24	-.12	19	-.10	14	+.44	9	-.05
+35	-.05	+30	+.22	+25	-.10	+20	-.14	+15	+.38	+10	-.05

$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$
h		h		h		h		h		h	
0	+.11	0	+.10	0	+.04	0	.000	0	+.34	0	+.12
1	+.09	1	+.12	1	+.02	1	.000	1	+.33	1	+.13
2	+.06	2	+.13	2	-.01	2	.000	2	+.30	2	+.14
3	+.04	3	+.13	3	-.04	3	.000	3	+.25	3	+.15
4	.00	4	+.12	4	-.07	4	.000	4	+.16	4	+.13
5	-.03	5	+.11	5	-.11	5	.000	5	+.05	5	+.09
6	-.06	6	+.09	6	-.14	6	.000	6	-.08	6	+.03
7	-.09	7	+.06	7	-.17	7	.000	7	-.23	7	-.03
8	-.11	8	+.02	8	-.18	8	.000	8	-.32	8	-.10
9	-.12	9	-.01	9	-.19	9	.000	9	-.36	9	-.15
10	-.12	10	-.04	10	-.18	10	.000	10	-.35	10	-.19
11	-.12	11	-.08	11	-.16	11	.000	11	-.26	11	-.20
12	-.11	12	-.10	12	-.13	12	.000	12	-.14	12	-.19
13	-.09	13	-.12	13	-.08	13	.000	13	-.07	13	-.14
14	-.06	14	-.13	14	-.01	14	.000	14	-.02	14	-.08
15	-.04	15	-.13	15	+.08	15	.000	15	+.02	15	-.08
16	.00	16	-.12	16	+.16	16	.000	16	+.04	16	-.08
17	+.03	17	-.11	17	+.19	17	.000	17	+.06	17	-.08
18	+.06	18	-.09	18	+.21	18	.000	18	+.09	18	-.08
19	+.09	19	-.06	19	+.21	19	.000	19	+.12	19	-.08
20	+.11	20	-.02	20	+.18	20	.000	20	+.17	20	-.08
21	+.12	21	+.01	21	+.14	21	.000	21	+.24	21	-.06
22	+.12	22	+.04	22	+.10	22	.000	22	+.30	22	-.03
23	+.12	23	+.08	23	+.06	23	.000	23	+.32	23	+.04
24	+.11	24	+.10	24	+.04	24	.000	24	+.34	24	+.12

## SYSTEMATIC CORRECTIONS IN DECLINATION APPLICABLE TO A. G. ZONES.

Albany		Nikolaief		Strassburg		Wien-Ott.	
$\delta$	$\Delta\delta_\delta$	$\delta$	$\Delta\delta_\delta$	$\delta$	$\Delta\delta_\delta$	$\delta$	$\Delta\delta_\delta$
° "		° "		° "		° "	
+ 1 +.07		- 2 +.25		- 6 -.05		- 10 -.01	
2 +.07		- 1 +.25		5 -.04		- 9 +.03	
3 +.07		0 +.25		4 +.04		- 8 -.03	
4 +.07		+ 1 +.25		3 +.10		- 7 -.15	
+ 5 +.07				- 2 +.13		- 6 -.30	
$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$	$\alpha$	$\Delta\delta_\alpha$
h		h		h		h	
0 +.17		0 +.42		0 +.17		0 +.12	
1 +.21		1 +.38		1 +.16		1 +.10	
2 +.23		2 +.31		2 +.15		2 +.07	
3 +.24		3 +.23		3 +.12		3 +.09	
4 +.23		4 +.12		4 +.08		4 +.16	
5 +.21		5 +.01		5 +.04		5 +.21	
6 +.17		6 -.10		6 .00		6 +.21	
7 +.12		7 -.21		7 -.04		7 +.14	
8 +.06		8 -.30		8 -.08		8 -.02	
9 .00		9 -.37		9 -.12		9 -.11	
10 -.06		10 -.41		10 -.15		10 -.17	
11 -.12		11 -.43		11 -.16		11 -.20	
12 -.17		12 -.42		12 -.17		12 -.21	
13 -.21		13 -.38		13 -.16		13 -.20	
14 -.23		14 -.31		14 -.15		14 -.18	
15 -.24		15 -.23		15 -.12		15 -.16	
16 -.23		16 -.12		16 -.08		16 -.14	
17 -.21		17 -.01		17 -.04		17 -.11	
18 -.17		18 +.10		18 .00		18 -.07	
19 -.12		19 +.21		19 +.04		19 -.03	
20 -.06		20 +.30		20 +.08		20 +.02	
21 .00		21 +.37		21 +.12		21 +.07	
22 +.06		22 +.41		22 +.15		22 +.12	
23 +.12		23 +.43		23 +.16		23 +.13	
24 +.17		24 +.42		24 +.17		24 +.12	



## A. G. ZONES. WEIGHTS IN RIGHT ASCENSION.

Number of observations equivalent to "weight."

Wt.	Kasan	Chr	H-G	Harv	Bonn	Lund	Leid	Camb	Berl B.	Berl A.	Leip I	Leip II	Alb	Nik	Str	Wien-Ott
.1					1			1								
.15			1								1					
.2					2	1		2						1		
.25	1		2	1												
.3					3			3			2	1	1			
.35			3				1									
.4		1	4		4	2		4		1	3			2	1	
.5	2			2				5			4					1
.6				3		3		6			5	2	2	3+		
.7	3	2		4-5		4	2	7-9	1	2	6-7	3	3		2	
1.0	4-5	3		6+		5-6	3-4	10+		3		4	4		3	2
1.5	6-7	4+				7-9			2	4		5-6	5-7		4+	3-4
2.0	8-9					10+			3	5		7+				
2.5	10-11															
3.0	12-13								4							
3.5	14-15								5							
4.0	16+								6							

## A. G. ZONES. WEIGHTS IN DECLINATION.

Number of observations equivalent to "weight."

Wt	Kasan	Chr	H-G	Harv	Bonn	Lund	Leid	Camb	Berl B.	Berl A.	Leip I	Leip II	Alb	Nik	Str	Wien-Ott
.1	1													1		
.15		1		1	1									2		
.2	2		1													
.25		2+		2	2											
.3	3							1		1	1		1	3+		
.35			2	3	3	1	1									
.4	4											1			1	
.5	5-6		3	4+	4+					2						1*
.6	7		4+				2	2			2		2			
.7	8-9					2		3	1	3-4	3	2			2	
1.0	10+					3-4	3-4	4-7		5+	4	3-4	3-4		3	2
1.5						5-8		8+	2		5+	5+	5+		4	3
2.0						9+			3-5						5+	4+

\* The weight in declination for Wien-Ottakring is decidedly smaller for stars fainter than 8<sup>m</sup>.5.



Wts	Radcl 45		Pulk 45		Paris 45		Stgo 50	Gi Z 50	Cape 50	Grw' 50	Pulk 55	
	S. + 60°	N. + 60°	S. of 60°	N. of + 60°	S. of + 60°	N. of + 60°						
.05	I											
.1					I		I	I	I	I	I	
.15	2	I			2	I	2		2			I
.2	3							2	3	2	2	
.25	4		I		3		3					
.3	5	3			4	2	4	3+	4-5	3	3	2
.35	6				5							
.4	7-9	3-4			6	3	5		6-9	4	4	
.5	10-12	5-6	2		7		6-7		10-14	5-6	5	3 I
.6	13-15	7-9		I	8-9	4	8-9		15-24	7	6-9	4 4
.7	18-24	10-12	3		10-12	5-6	10-11		25+	8-9	5	2
1.0	25+	13+	4-5	2	13-22	7-10	12-25			10-16	10-19	3-4
1.5			6-8		23-38	11-16	26-54			17-26	20+	5+
2.0			9-12	3-4	39-63	17-24	55+			27-40		
2.5			13-15	5	64-109	25-38				41-60		
3.0			16-20	6	110+	39-57				61-90		
3.5			21-26	7		58-94				91+		
4.0			27-36	8-9		95+						
5.0			37-57	10-13								
6.0			58+	14-18								
7.0				19-24								
8.0				25-34								
9.0				35-47								
10.0				48+								

See Remark 17  
 + 30° and South  
 + 40°  
 + 70°



## WEIGHTS IN RIGHT ASCENSION.

Weights	Harv 65	Cape 65	Bruss 65	Pulk 65		Grw 72		Melb 70	Wash 75	Cord 75
				S. of + 60°	N. of + 60°	To + 60°	N. of + 60°			
.05			I							
.1										
.15	I	I							I	
.2			2							
.25						I				I
.3	2	2	3						2	2
.35								2		3
.4	3	3	4							4
.5	4	4		I		2	I	3	3	5
.6	5	5	5-6		I				4	6-7
.7	6	6	7			3		4	5	8-10
1.0	7-14	7-11	8-27	2		4-5	2	5-7	6-8	11-27
1.5	15+	12-19	28+	3	2	6-8	3-4	8-11	9-12	28+
2.0		20-31		4-5	3	9-10	5	12-16	13-16	
2.5		32-49		6	4	11-13	6	17-21	17-21	
3.0		50+		7-8	5	14-17	7-8	22-27	22-26	
3.5				9	6	18-21	9-10	28-34	27-31	
4.0				10-13	7-8	22-29	11-13	35-49	32-40	
5.0				14-17	9-11	30-38	14-19	50-77	41-54	
6.0				18-27	12-13	39-53	20-27	78+	55-72	
7.0				28-34	14-17	54-73	28-36		73-93	
8.0				35-55	18-22	74+	37-52		94+	
9.0				56+	23-27		53+			
10.0					28+					

Weights	Madr 75			Pulk 75		Becker 75	Harv 75		Paris 75	AGZ 75	Cape 80	Grw 80
				To + 60°	N. of + 60°		To + 70°	N. of + 70°				
.05	I	I-2	2									
.1	2-3	3	3	I					I		I	
.15	4	4-5	4-6									
.2	5-6	6-7	7-10	2	I		I		2			
.25	7-9	8	11-16								2	I
.3	10-12	9-10	17-24	3					3			
.35	13-16	11-12	25-60		2		2	I			3	
.4	17-22	13-15	61+	4					4			
.5	23-45	16-19		5	3	I	3		5		4	2
.6	46+	20-23		6			4		6		5	
.7		24-33		7-8	4		5	2	7-9		6-7	3
1.0		34-60		9-12	5-7	2-3	6-8	3	10-16		8-11	4-5
1.5		61+		13-17	8-10	4-5	9-11	4-5	17-28		12-17	6-7
2.0				18-23	11-13	6+	12-15	6-7	29-46		18-25	8-10
2.5				24-29	14-17		16-19	8-9	47-79		26-33	11-13
3.0				30-35	18-20		20-24	10-11	80+		34-44	14-17
3.5				36-42	21-24		25-29	12-13			45-56	18-22
4.0				43-52	25-29		30-37	14-17			57-82	23-29
5.0				53-68	30-41		38-49	18-24			83+	30-44
6.0				69-85	42-53		50-64	28-33				45-63
7.0				86+	54-66		65+	34-44				64+
8.0					67-83			45-60				
9.0					84+			61-82				
10.0								83+				

## WEIGHTS IN RIGHT ASCENSION.

Wts.	Melb 80	Saff 85	Strassb 85	Cape 85		Pulk 85		Radcl 90	Cinc 90	Cape 90	Grw 90
				S. of - 60°		To + 60° N. of + 60°					
.05											
.1	1										
.15				1				1	1	1	
.2											
.25	2			2	1			2			
.3									2	2	1
.35	3										
.4			1	3				3	3		
.5	4			4	2	1		4	4	3	2
.6	5			5					5-6	4	
.7	6	1		6	3		1	5-6	7-9	5	3
1.0	7-8		2-3	7-9	4-5	2		7-9	10+	6-8	4
1.5	9-14	2	4	10-14	6-7	3	2	10-14		9-12	5-7
2.0	15-22	3	5-6	15-18	8-10	4-5	3	15-19		13-16	8.9
2.5	23-34	4	7-8	19-22	11-13	6	4	20-24		17-21	10-11
3.0	35-49	5	9-10	23-27	14-16	7-8	5	25-30		22-26	12-14
3.5	50-71	6-7	11-12	28-32	17-19	9	6	31-37		27-31	15-17
4.0	72+	8-9	13-16	33-39	20-26	10-13	7-8	38-48		32-39	18-23
5.0		10-14	17-24	40-50	27-36	14-17	9-11	49-65		40-53	24-31
6.0		15-23	25-35	51-62	37-50	18-27	12-13	66+		54-70	32-42
7.0		24-37	36-50	63-75	51-67	28-34	14-17			71-90	43-56
8.0		38-69	51-79	76+	68+	35-55	18-22			91+	57-76
9.0		70+	80+			56+	23-27				77+
10.0						28+					

Weights	Berl 90	Madn 90	Lisb 90	Melb 90	Pulk 92	Lick 95	Berl 95	Alb 00	Lick 00	Mün 00
.05										
.1										
.15				1				See Rem. 18	See Rem. 19	
.2										
.25				2						
.3										
.35				3						
.4										
.5				4	1				1	
.6				5						1
.7		1		6				1		
1.0	1		1	7-8	2		1		2	2
1.5		2		9-14	3			2	3	3
2.0	2	3	2	15-22	4-5		2	3	4-5	4
2.5		4	3	23-34	6			4	6	5-6
3.0	3	5		35-49	7-8		3		7-8	7-8
3.5	4	6-7	4	50-71	9		4		9-10	9-10
4.0	5	8-9	5-6	72+	10-13	8+	5		11+	11-14
5.0	6-8	10-14	7-8		14-17		6-8			15-24
6.0	9-11	15-23	9-11		18-27		9-11			25+
7.0	12-16	24-37	12-15		28-34		12-16			
8.0	17-23	38-69	16-21		35-55		17-23			
9.0	24-39	70+	22-31		56+		24-39			
10.0	40+		32+				40+			

## WEIGHTS IN RIGHT ASCENSION.

Weights	Cape 00	Cinc 00	Bonn 00	Cape 06
.05				
.1				
.15				
.2		1		
.25				
.3				
.35				
.4		2		
.5	1			1
.6		3		
.7		4	1	
1.0	2	5+		2
1.5	3		2	3
2.0	4-5		3	4-5
2.5	6-7		4	6-7
3.0	8-10		5+	8-10
3.5	11+			11-13
4.0				14+
5.0				
6.0				
7.0				
8.0				
9.0				
10.0				



[illegible]

## WEIGHTS IN DECLINATION.

Wts.	Stgo 50	Grw 50	Gi Z 50	Cape 50	Pulk 55	Carr 55	Stgo 55	Wash 60	Cape 60	Grw 60	Stgo 60	Radcl 60	Melb 60
.05	1		1 2 3+		(21)		1				1		
.1								1				1	
.15	2						2				2	2	1
.2		1		1	1		3	2			3	3	
.25	3								1		4	4	
.3	4	2					4	3			4	5	2
.35	5						5-6	4			5-6	6-7	
.4	6			2	2		7-9	5	2	1	7-9	8-11	3
.5	7-9	3		3			10-12	6			10-12	12+	4
.6	10-13	4		4	3		13-17	7-8	3		13-17		5
.7	14-25	5-6		5	4	3	18-24	9-12	4	2	18-24		6-7
1.0	26+	7-11		6-14	5-6	4-6	25+	13-27	5-6	3-4	25+		8-12
1.5		12-21		15+	7-10	7-8		28-79	7-10	5-6			13-22
2.0		22-45			11-16	9-11		80+	11-16	7-10			23-37
2.5		46+			17-24	12-15			17-24	11-14			38-69
3.0					25-37	16-20			25-37	15-22			70+
3.5					38-60	21-25			38-60	23-37			
4.0					61+	26-39			61+	38+			
5.0						40+							
6.0													
7.0													
8.0													
9.0													
10.0													

Wts.	Paris 60	Grw 64	Cape 65	Bruss 65	Pulk 65	Grw 72	Melb 70	Wash 75	Cord 75	Madr 75	Pulk 75	Becker 75
.05										1 2 3 4		
.1					(22)					5-6		
.15	1									7		
.2			1	1		1		1	1	8-9		
.25										10-13	1	
.3	2									14-19		
.35		1	2	2						20-29		
.4	3									30+	2	1
.5	4		3									
.6	5		4	3-5								
.7	6-7	2										
1.0	8-12	3-4	5-6	6+	1	5-6	4-6	5-7	11+		3	2-3
1.5	13-22	5-6	7-10			7-10	7-12	8-10			4	4-5
2.0	23-37	7-10	11-16		2	11-16	13-27	11-14			5-6	6+
2.5	38-69	11-14	17-24			17-24	28+	15-18			7-8	
3.0	70+	15-22	25-38		3	25-37		19-23			9-10	
3.5		23-37	39-60		4	38-60		24-29			11-12	
4.		38+	61+		5	61+		30-40			13-17	
5.					6-8			41-60			18-23	
6.					9-10			61-90			24-33	
7.					11-14			91+			34-45	
8.					15-18						46-65	
9.					19-26						66+	
10.0					27+							

WEIGHTS IN DECLINATION.

Wts.	Harv 75	Paris 75	AGZ 75	Cape 80	Grw 80	Melb 80	Strassb 85	Cape 85	Pulk 85	Radcl 90	Cinc 90	Cape 90	Grw 90
.05			See special tables						(22)				
.1	I												
.15		I											
.2	2												
.25	3					I					I	I	I
.3		2			I	I		I	I				
.35	4												
.4	5	3					2				2		
.5	6	4				2						2	
.6	7-8	5			2		3	2	2		3	3	
.7	9-11	6-7			3	4		3		4	4	3	2
1.0	12-20	8-12		3-4	4-5	5-7	3-4	4	I	5-6	5+	4-5	3-4
1.5	21-35	13-22		5-6	6-7	8-12	5-6	5-7		7-10		6-8	5-6
2.0	36-60	23-37		7-9	8-10	13-21	7-8	8-11	2	11-15		9-11	7-8
2.5	61+	38-69		10-13	11-14	22-35	9-11	12-15		16-21		12-15	9-11
3.0		70+		14-17	15-17	36+	12-14	16-21	3	22-29		16-20	12-14
3.5				18-24	18-22		15-18	22-29	4	30-41		21-26	15-18
4.0				25+	23-32		19-24	30-49	5	42-75		27-39	19-24
5.0					33-51		25-37	50+	6-8	76+		40-67	25-37
6.0					52-87		38-56		9-10			68+	38-56
7.0					88+		57-90		11-14				57-90
8.0							91+		15-18				91+
9.0									19-26				
10.0									27+				

Wts.	Berl 90	Madn 90	Melb 90	Mün 92	Lick 95	Berl 95	W-Ott 97	Alb 00	Lick 00	Cinc 00	Bonn 00	Cape 00	Cape 06
.05							(23)	(24)					
.1													
.15													
.2							I						
.25			I							I			
.3													
.35													
.4			2				2			2			
.5		I						I		3			
.6			3				3			4		I	I
.7			4				4			5+			
1.0	I	2	5-7			I	5-7	2	I		I	2	2
1.5		3-4	8-12				8-11	3	2			3	3
2.0	2	5	13-21			2	12-16	4-5	3-5		2	4	4
2.5		6-7	22-35				17-22	6-8	6+		3	5	5
3.0	3	8	36+	All	All	3	23-29	9+			4	6-7	6-7
3.5		9-10					30-38				5+	8-9	8-9
4.0	4-5	11-14					39-59					10-12	10-12
5.0	6-7	15-19					60+					13+	13+
6.0	8-11	20-27											
7.0	12-18	28-37											
8.0	19-35	38-53											
9.0	36+	54-77											
10.0		78+											



### REMARKS UPON THE TABLES OF SYSTEMATIC CORRECTIONS AND WEIGHTS.

(1) **Bradley 1755.** The term in  $\Delta a_\alpha$ , depending on  $\text{tg } \delta$ , applies north of declination  $+60^\circ$ , and it is necessarily very uncertain.

(2) **Pulkowa 1855.** The observations upon which this Catalogue is based extend over a long period, and were chiefly made in broad zones. The mean  $\Delta a_\alpha$  applicable to the entire Catalogue is not far from  $+5007$ . Taking the Catalogue by zones, the following corrections have been determined, and may be substituted for the uniform correction  $+5007$ .

	$-20^\circ$ to $0^\circ$	$0^\circ$ to $+30^\circ$	$+30^\circ$ to $+60^\circ$	$+60^\circ$ to Pole	
h	s	s	s	s	s
0	+0.006	.000	-.004	+0.007	+0.012 $\text{tg } \delta$
1	+0.009	.000	-.003	+0.007	+0.010
2	+0.013	+0.001	-.001	+0.007	+0.010
3	+0.016	+0.001	+0.003	+0.007	+0.010
4	+0.018	+0.002	+0.009	+0.007	+0.011
5	+0.020	+0.004	+0.017	+0.007	+0.010
6	+0.020	+0.006	+0.020	+0.007	+0.007
7	+0.020	+0.007	+0.020	+0.007	+0.004
8	+0.019	+0.009	+0.016	+0.007	-.001
9	+0.017	+0.011	+0.011	+0.007	-.005
10	+0.015	+0.012	+0.006	+0.007	-.009
11	+0.012	+0.013	+0.003	+0.007	-.013
12	+0.008	+0.014	+0.005	+0.007	-.015
13	+0.005	+0.014	+0.010	+0.007	-.017
14	+0.001	+0.013	+0.015	+0.007	-.018
15	-.002	+0.013	+0.016	+0.007	-.019
16	-.004	+0.012	+0.013	+0.007	-.020
17	-.006	+0.010	+0.008	+0.007	-.020
18	-.006	+0.008	+0.001	+0.007	-.016
19	-.006	+0.007	-.004	+0.007	-.006
20	-.005	+0.005	-.006	+0.007	+0.010
21	-.003	+0.003	-.007	+0.007	+0.019
22	-.001	+0.002	-.007	+0.007	+0.021
23	+0.002	+0.001	-.006	+0.007	+0.017
24	+0.006	.000	-.005	+0.007	+0.012

(3) **Pulkowa 75.** The second term multiplied by " $k$ " is computed under the hypothesis of a systematic error in adopted collimation, varying with the time of year (or with the temperature). The form of such a correction would be:

$$(a \sin \alpha + b \cos \alpha) \left[ \frac{1 - \text{tg} \frac{P}{2}}{1 - \text{tg} \frac{45^\circ}{2}} \right],$$

wherein  $P$  is the polar distance, and the unit factor corresponds to  $45^\circ$  of declination. The result of computation gives:

$$\left\{ \begin{array}{l} -.017 \sin \alpha + .013 \cos \alpha \\ -.002 \sin 2\alpha + .006 \cos 2\alpha \end{array} \right\} k,$$

$$\text{wherein } k = \frac{1 - \text{tg} \frac{P}{2}}{1 - \text{tg} \frac{45^\circ}{2}}.$$

The corrections computed from this formula seem to be fairly well supported in the individual zones up to  $+60^\circ$ . North of the Pulkowa zenith the observations do not seem to require this correction.

(4) **Dorpat 1815.** The corrections for this Catalogue are applicable to a manuscript-catalogue compiled from Struve's observations of 1814-15 (Part II, Volume I, of the Dorpat Observations). Essentially the compilation was effected as follows:

Constant corrections were applied to the results for each night in 1815 on account of a revision of the places of the adopted fundamental stars. These, with adopted corrections, are:

Capella	$+0.17^s$	$\alpha$ Persei	$+0.21^s$
Vega	$+0.17$	$\delta$ Cassiop.	$+0.24$
$\alpha$ Cygni	$+0.18$	$\epsilon$ Urs. Maj.	$+0.18$

The mean constant correction might have been taken as  $+0.18$  without serious loss of accuracy.

In the observations are given, for each star, coefficients of correction to be required on account of any future revision of the star-constants adopted in the reductions. The present manuscript-catalogue was formed with adopted Aberration =  $20''.50$  and Nutation =  $9''.224$ , the formula being:

$$-0.044 \nu + 0.012 \alpha,$$

$\nu$  and  $\alpha$  having the signification given in the Observations.

The results for 1814 require systematic correction to reduce them to conformity with the revised right-ascensions for 1815, as described in the foregoing. The adopted value of this correction is in the sense (1815-1814):

$$+0.18 - 0.044 \nu + [+0.019 + 0.031 \sin(268.5 + \alpha)] \sec \delta.$$

The right-ascensions thus revised for the two years (half weight for 1814) constitute the manuscript-catalogue to which is applicable the corrections given in the table for Dpt. 15.

(5) **Bradley 1755.** These corrections,  $\Delta\delta_a$ , are mean values applicable respectively to stars south and north of the Greenwich zenith; their determination is liable to material uncertainty; and it is quite possible that they could be proved not constant in all zenith-distances.

(6) **Dorpat 30.** "Corrctiones Ultimæ" of the "Positiones Mediæ" must first be applied to the declinations.

(7) The tabular values of systematic correction in declination for **Edinb 40** are divided into two series. Corrections  $\Delta\delta_s$  under **Edinb 40<sub>1</sub>** apply to Edinburgh observations until the end of 1840 and under **40<sub>2</sub>** to observations, 1841-1844; but the value of  $\Delta\delta_a$  for the two periods is assumed to be the same. The difference in  $\Delta\delta_s$  may be partly due to difference of computed refractions in the two periods.

(8) **Radcl 45.** The Catalogue declinations should first receive corrections taken from p. viii of the Introduction. A similar correction is required for **Radcl. 60**.

(9) **Cordoba 1875.** There are decided systematic differences in both coördinates between the results, Clamp E. and Clamp W.; also in declination between the results obtained in different positions of the circle, the corrections in the table require additional special corrections for the separate years. (See *Astr. Jour.* (No. 550), Vol. XXIII.)

Thus we have the following additional corrections,  $\Delta\alpha_s$ , for right-ascensions, Clamp E. For Clamp W. the opposite signs must be employed.

#### CORRECTIONS, CLAMP EAST.

$\delta$	Corr.	$\delta$	Corr.
$0$	$0$	$0$	$0$
$0$	$-0.006$	$-45$	$+0.029$
$-5$	$-0.001$	$50$	$+0.030$
$10$	$+0.004$	$55$	$+0.030$
$15$	$+0.009$	$60$	$+0.030$
$20$	$+0.014$	$65$	$+0.030$
$25$	$+0.018$	$70$	$+0.030$
$30$	$+0.023$	$75$	$+0.030$
$35$	$+0.027$	$80$	$+0.030$
$-40$	$+0.028$	$-85$	$+0.030$

The clamp was east in 1872, 1875.67 to 1877.0, 1878, 1880 to 1884.

**CORDOBA 75.  $\Delta\delta_s$ , TO REDUCE SEPARATE YEARS TO CATALOGUE-MEAN.**

Year s	72	73	74.0 to 75.67	75.67 to 77.0	77	78	79	80	s
0	"	"	"	"	"	"	"	"	0
5	+ .72	-.09	-.10	+ .33	-.29	-.54	-.63	+ .59	5
10	+ .78	-.10	-.17	+ .26	-.32	-.38	-.62	+ .54	10
15	+ .83	-.11	-.20	+ .18	-.38	-.22	-.59	+ .48	15
20	+ .87	-.14	-.13	+ .10	-.44	-.15	-.53	+ .42	20
25	+ .89	-.17	-.06	+ .02	-.49	-.11	-.43	+ .34	25
30	+ .88	-.19	.00	-.02	-.52	-.12	-.28	+ .28	30
35	+ .72	-.19	+ .01	+ .06	-.51	-.14	-.25	+ .26	35
40	+ .54	-.17	+ .01	+ .19	-.40	-.18	-.23	+ .23	40
45	+ .47	-.17	+ .01	+ .27	-.30	-.24	-.20	+ .19	45
50	+ .41	-.17	+ .06	+ .25	-.25	-.32	-.13	+ .15	50
55	+ .35	-.15	+ .13	+ .22	-.18	-.38	-.04	+ .12	55
60	+ .28	-.15	+ .16	+ .20	-.13	-.41	.00	+ .07	60
65	+ .23	-.13	+ .15	+ .18	-.07	-.41	.00	+ .05	65
70	+ .18	-.11	+ .12	+ .16	-.04	-.36	.00	+ .03	70
75	+ .13	-.09	+ .09	+ .12	.00	-.29	.00	.00	75
80	+ .10	-.06	+ .07	+ .09	.00	-.22	.00	.00	80
85	+ .06	-.04	+ .04	+ .06	.00	-.15	.00	.00	85
90	+ .03	-.02	+ .02	+ .03	.00	-.07	.00	.00	90
-90	.00	.00	.00	.00	.00	.00	.00	.00	-90

**$\Delta\delta_a$ , TO REDUCE SEPARATE YEARS TO CATALOGUE-MEAN.**

R. A.	72	73	74.0 to 75.67	75.67 to 77.0	77	78	79	80	R. A.
h	"	"	"	"	"	"	"	"	h
0	-.02	+ .09	+ .14	-.16	-.08	-.19	-.01	+ .37	12
1	+ .01	+ .05	+ .20	-.12	-.09	-.24	-.02	+ .30	13
2	+ .04	+ .01	+ .24	-.08	-.09	-.28	-.02	+ .21	14
3	+ .06	-.05	+ .26	-.03	-.10	-.30	-.03	+ .09	15
4	+ .08	-.09	+ .27	+ .02	-.09	-.30	-.04	-.02	16
5	+ .10	-.12	+ .26	+ .08	-.08	-.27	-.03	-.13	17
6	+ .11	-.15	+ .23	+ .13	-.06	-.23	-.03	-.23	18
7	+ .11	-.17	+ .19	+ .16	-.04	-.17	-.03	-.32	19
8	+ .10	-.18	+ .12	+ .18	-.02	-.11	-.02	-.40	20
9	+ .09	-.17	+ .06	+ .20	+ .01	-.03	-.01	-.43	21
10	+ .07	-.16	-.01	+ .20	+ .03	+ .05	.00	-.44	22
11	+ .05	-.13	-.08	+ .19	+ .06	+ .13	+ .01	-.42	23
12	+ .02	-.09	-.14	+ .16	+ .08	+ .19	+ .01	-.37	24

When the argument for  $\Delta\delta_a$  is on the right, employ the opposite sign.

(10) **Cape 80.** The values of  $\Delta\alpha_s$  for Cape 80 recognize the division into zones. The corrections vary abruptly at  $-35^\circ$ ,  $-45^\circ$ ,  $-55^\circ$ ,  $-65^\circ$ , and  $-75^\circ$  of declination. For instance, from  $-30^\circ$  to  $-35^\circ$  the correction is to be interpolated between  $+^{\circ}034$  and  $+^{\circ}045$ , while between  $-35^\circ$  and  $-40^\circ$  the correction is to be interpolated between  $+^{\circ}014$  and  $+^{\circ}024$ .  $\Delta\alpha_a$  and  $\Delta\delta_s$  are not supposed sensibly to depend upon the division into zones.

Since the zones were completed one after another, beginning at the South Pole in 1871 and ending in 1878, it might be assumed that there would be a material difference in the  $\Delta\delta_a$  that should apply to the respective zones, due to the differing amounts of variation of latitude in the corresponding years. Accordingly the values of  $\Delta\delta_a$  under I have been determined as applicable to the observations from the northernmost to  $-25^\circ$ ; II, from  $-25^\circ$  to  $-35^\circ$ ; III, from  $-35^\circ$  to  $-45^\circ$ ; and IV, from  $-45^\circ$  to the South Pole, it having been regarded as impracticable to determine a special correction for each zone southward from  $-45^\circ$ , owing to lack of material.

(11) **Bradley 1755.** On account of the abrupt changes in the curve (attributed to error of graduation) it becomes necessary to give the correction  $\Delta\delta_s$  for every degree. The authority



upon which this rests is a revision of the discussion published in No. 545 of the *Astronomical Journal* (Vol. XXIII, p. 157); also, *Catalogue of 627 Principal Standard Stars* (p. 73).

SPECIAL TABLE OF CORRECTIONS,  $\Delta\delta_s$ , FOR BRADLEY, 1755.

South of Zenith						North of Zenith						
						Above Pole			Below Pole			
$\delta$	$\Delta\delta_{\delta}$		$\delta$	$\Delta\delta_{\delta}$		$\delta$	$\Delta\delta_{\delta}$		$\delta$	$\Delta\delta_{\delta}$		
°	"		°	"		°	"		°	"		
+53.5	+ .09		+27	+ .59	- 0	+ .75	+49.5	- .03	81	- .40	+45	+ .10
53	+ .06		26	+ .77	1	+ .61	50	- .03	82	- .43	46	+ .25
52	+ .08		25	+ 1.02	2	+ .56	51	- .02	83	- .52	47	+ .10
							52	- .03	84	- .59	77	- .41
51	+ .13		24	+ 1.41	- 3	+ .75					48	+ .05
50	+ .18		23	+ 1.65	4	+ 1.14	53	- .04	85	- .55	49	+ .09
49	+ .27		22	+ 1.59	5	+ 1.32	54	- .08	86	- .44	50	+ .15
							55	- .04	87	- .46	80	- .43
48	+ .22		21	+ 1.55	- 6	+ 1.29					51	+ .22
47	+ .40		20	+ 1.59	7	+ 1.25	56	- .24	88	- .51	52	+ .33
46	+ .33		19	+ 1.62	8	+ 1.19	57	- .26	89	- .50	53	+ .41
45.5	+ .21						58	- .15	90	- .44	83	- .18
			18	+ 1.42	- 9	+ 1.14					54	+ .47
45	+ .03		17	+ 1.16	10	+ 1.09	59	+ .32			55	+ .49
44.5	- .32		16	+ 1.19	11	+ 1.06	60	+ .02			56	+ .51
44	- .84						61	- .40			86	+ .24
43.5	- .83		15	+ 1.39	- 12	+ 1.06					57	+ .59
43	- .23		14	+ 1.48	13	+ 1.09	62	- .61			58	+ .67
42.5	+ .32		13	+ 1.51	14	+ 1.12	63	- .70			59	+ .42
							64	- .80				
42	+ .63		12	+ 1.36	- 15	+ 1.16					60	+ .05
41.5	+ .82		11	+ 1.34	16	+ 1.16	65	- .95			61	- .19
41	+ 1.04		10	+ 1.42	17	+ 1.28	66	- 1.08			62	- .35
40	+ 1.31						67	- 1.14				
			9	+ 1.50	- 18	+ 1.62					63	- .50
39	+ 1.62		8	+ 1.36	19	+ 1.75	68	- .97			64	- .61
38	+ 2.03		7	+ 1.16	20	+ 1.37	69	- .82			65	- .71
37	+ 2.36						70	- .71				
			6	+ .97	- 21	+ 1.09					66	- .78
36	+ 2.52		5	+ .74	22	+ .94	71	- .68			67	- .82
35	+ 2.23		4	+ .63	23	+ .80	72	- .62			68	- .82
34	+ 2.08						73	- .38				
			3	+ .66	- 24	+ .60					69	- .80
33	+ 1.86		2	+ .78	25	+ .45	74	- .20			70	- .75
32	+ 1.87		1	+ .86	26	+ .36	75	+ .01			71	- .65
31	+ 1.88						76	+ .16				
			0	+ .75	- 27	+ .41					72	- .49
30	+ 1.64				28	+ .67	77	+ .06			73	- .44
29	+ 1.29				29	+ 1.16	78	- .07			74	- .52
28	+ .87						79	- .30				
					- 30	+ 1.95					75	- .56
					(31	+ 2.67)	80	- .42				
27	+ .59				(32	+ 2.67)	81	- .40				

(12) Königsberg 1820. These values of  $\Delta\delta_s$  apply to the results of Döllén's reduction of Bessel's observations. (*Recueil de Mem. des Astronomes de l'Obs. Cent. de Russie*, Vol. 2, pp. 203-232.)

(13) Cape 1833. The  $\Delta\delta_s$  for Henderson's Cape declinations follows from a special discussion published in Nos. 540-541 of the *Astronomical Journal*, Vol. XXIII, p. 123; *Catalogue of 627 Principal Standard Stars*, pp. 67-71. An important part of the correction is supposed to originate in an abruptly varying error of graduation. The correction is most effectively given for each degree, as in the following table.

$\Delta\delta_8$  FOR CAPE 33 (HENDERSON).

$\delta$	$\Delta\delta_8$	$\delta$	$\Delta\delta_8$	$\delta$	$\Delta\delta_8$	$\delta$	$\Delta\delta_8$
°	"	°	"	°	"	°	"
+40	-0.08	+5	-0.12	-31	+0.79	-66	-0.30
39	-0.03	4	-0.12	32	+0.79	67	-0.27
38	+0.02	3	-0.11	33	+0.80	68	-0.25
37	+0.06	2	-0.11	34	+0.80	69	-0.20
36	+0.11	1	-0.10	35	+0.79	70	-0.16
+35	+0.14	0	-0.11	-36	+0.78	-71	-0.13
34	+0.18			37	+0.77	72	-0.10
33	+0.21	-1	-0.13	38	+0.72	73	-0.07
32	+0.24	2	-0.14	39	+0.64	74	-0.04
31	+0.27	3	-0.17	40	+0.51	75	-0.02
+30	+0.29	4	-0.19				
29	+0.32	5	-0.21	-41	+0.36	-76	-0.01
28	+0.34			42	+0.22	77	0.00
27	+0.36	-6	-0.22	43	+0.11	78	0.00
26	+0.38	7	-0.22	44	+0.01	79	0.00
+25	+0.40	8	-0.21	45	-0.06	80	0.00
24	+0.41	9	-0.17				
23	+0.41	10	-0.14	-46	-0.13	-81	0.00
22	+0.42			47	-0.19	82	0.00
21	+0.41	-11	-0.07	48	-0.21	83	0.00
+20	+0.38	12	+0.01	49	-0.23	84	0.00
19	+0.24	13	+0.08	50	-0.25	85	0.00
18	+0.02	14	+0.15				
17	-0.23	15	+0.20	-51	-0.26	-86	0.00
16	-0.29			52	-0.25	87	0.00
+15	-0.32	-16	+0.27	53	-0.25	88	0.00
14	-0.32	17	+0.34	54	-0.24	89	0.00
13	-0.30	18	+0.40	55	-0.23	-90	0.00
12	-0.29	19	+0.47				
11	-0.25	20	+0.53	-56	-0.23		
+10	-0.22	21	+0.59	57	-0.21		
9	-0.20	22	+0.63	58	-0.21		
8	-0.17	23	+0.66	59	-0.22		
7	-0.15	24	+0.69	60	-0.25		
6	-0.13	25	+0.72	-61	-0.27		
		26	+0.74	62	-0.30		
		27	+0.76	63	-0.30		
		28	+0.77	64	-0.30		
		29	+0.78	65	-0.30		
		30	+0.79				

(14) **Melbourne 1860.** This series of declinations determined at Williamstown includes the application of the table of corrections found in the introduction of the Catalogue (p. XXI, *Melb. Obs.*, Vol. I).

(15) **Madras 1875.** The interpolation can be more accurately made from the table herewith having the argument for each degree. For the construction of the table see *Astronomical Journal*, Vol. XXIII, p. 210; also, *Catalogue of 627 Principal Standard Stars*, p. 98.

SPECIAL TABLE OF CORRECTIONS,  $\Delta\delta_s$ , FOR MADR 75.

$\delta$	$\Delta\delta_s$	$\delta$	$\Delta\delta_s$	$\delta$	$\Delta\delta_s$	$\delta$	$\Delta\delta_s$	$\delta$	$\Delta\delta_s$
°	"	°	"	°	"	°	"	°	"
+90	+0.46	+45	-0.39	+10	-0.50	-26	+0.19	-61	(+1.70)
85	+0.56	44	-0.45	9	-0.71	27	+0.42	62	(+1.70)
81	+0.36	43	-0.53	8	-0.88	28	+0.54	63	(+1.60)
		42	-0.63	7	-0.86	29	+0.64	64	(+1.40)
+80	+0.31	41	-0.67	6	-0.79	30	+0.69	65	(+1.20)
79	+0.21								
78	+0.10	+40	-0.44	+5	-0.67	-31	+0.74	-66	(+1.10)
77	+0.01	39	-0.45	4	-0.42	32	+0.79	67	(+1.20)
76	-0.07	38	-0.56	3	-0.08	33	+0.84	68	(+1.40)
		37	-0.58	2	+0.28	34	+0.89	69	(+1.70)
+75	-0.05	36	-0.53	1	+0.39	35	+0.95	70	(+2.00)
74	-0.08								
73	-0.16	+35	-0.34	0	+0.58	-36	+1.09		
72	-0.34	34	-0.07			37	+1.24		
71	-0.50	33	+0.14	-1	+0.61	38	+1.23		
		32	+0.28	2	+0.57	39	+1.16		
+70	-0.68	31	+0.37	3	+0.39	40	+1.11		
69	-0.85			4	+0.13				
68	-1.01	+30	+0.42	5	-0.10	-41	+0.99		
67	-0.97	29	+0.46			42	+0.89		
66	-0.89	28	+0.50	-6	-0.35	43	+0.80		
		27	+0.53	7	-0.48	44	+0.73		
+65	-0.75	26	+0.52	8	-0.42	45	+0.75		
64	-0.50			9	-0.33				
63	-0.14	+25	+0.56	10	-0.23	-46	+0.72		
62	+0.22	24	+0.71			47	+0.64		
61	+0.44	23	+0.88	-11	-0.14	48	+0.46		
		22	+0.88	12	-0.09	49	+0.30		
+60	+0.55	21	+0.81	13	-0.08	50	+0.13		
59	+0.58			14	-0.12				
58	+0.53	+20	+0.75	15	-0.17	-51	-0.04		
57	+0.35	19	+0.63			52	-0.18		
56	+0.09	18	+0.50	-16	-0.23	53	-0.12		
		17	+0.39	17	-0.29	54	0.00		
+55	-0.21	16	+0.30	18	-0.40	55	+0.16		
54	-0.44			19	-0.43				
53	-0.56	+15	+0.29	20	-0.20	-56	+0.44		
52	-0.51	14	+0.22			57	+0.82		
51	-0.45	13	+0.09	-21	-0.21	58	+1.21		
		12	-0.10	22	-0.31	59	+1.45		
+50	-0.38	11	-0.30	23	-0.33	60	(+1.60)		
49	-0.30			24	-0.28				
48	-0.26			25	-0.08				
47	-0.28								
46	-0.33								

(16) The weights for **Piazzi** as used in the computations for this Catalogue were:

No. Obs.	Wt.	No. Obs.	Wt.
5-7	.03	15-19	.06
8-10	.04	20-26	.07
11-14	.05	27-34	.08
		35+	.10

(17) **Pulk 55.** The weights in right-ascension for this Catalogue vary decidedly with the declination. The first column may be applied to all observations south of  $+30^\circ$ . Weights between  $+30^\circ$  and  $+40^\circ$ , and between  $+40^\circ$  and  $+70^\circ$  may be interpolated; and north of  $+70^\circ$  may be taken as at  $70^\circ$ .



(18) **Albany 00**, Manuscript-catalogue. The weights in right-ascension, after a very careful discussion, were tabulated as follows:

	1 obs.	2 obs.	3 obs.	4 obs.
$-21^{\circ}$ to $-29^{\circ}$	.7	1.5	2.0	2.5
$-30^{\circ}$	.6	1.0	2.0	2.5
31	.6	1.0	2.0	2.5
32	.6	1.0	1.5	2.0
33	.5	1.0	1.5	2.0
34	.5	1.0	1.5	2.0
35	.4	1.0	1.0	1.5
36	.4	.7	1.0	1.5
37	.3	.6	1.0	1.0
38	.3	.5	.7	1.0
39	.2	.4	.6	.7
40	.15	.3	.4	.6
41	.07	.15	.2	.3

These weights apply to observations in a single clamp, and were summed for the two clamps. Up to 4 observations, however, the table applies sufficiently well if the argument be total number of observations, irrespective of the number in each clamp.

(19) **Lick 1900**. These weights apply to the observations of *Piazzi* stars south of the Equator. For 16 observations of circumpolar stars the adopted weight is 5.0.

(20) **Pulk 45**. From declinations  $+55^{\circ}$  to  $+65^{\circ}$ , one half these weights in declination apply. Special Z. D. factors are employed as follows:

At Decl.	Multiply Weight by
0	
$+10$	.8
0	.6
$-10$	.4
$-15$	.25

(21) **Pulk 55**. By far the most frequently occurring number of observations in this Catalogue is 4, and for this the weight in declination was computed to be .8. This weight was employed.

(22) **Pulk 65 and Pulk 85**. For these two Catalogues the weights are modified in the same way. From declinations  $+55^{\circ}$  to  $+65^{\circ}$ , the weights should be multiplied by .5; and as follows at the respective declinations:

$\delta$	Factor
$+10^{\circ}$	1.0
0	0.7
$-5$	0.6
$-10$	0.5
$-15$	0.3
$-20$	0.1

(23) **Wien-Ottakring 97**. From  $35^{\circ}$  to  $40^{\circ}$  of declination the weight is one half that of the table.

(24) **Albany 1900.** The following weights in declination, derived from special investigation, were adopted.

	1 obs.	2 obs.	3 obs.	4 obs.	8 obs.
°					
-21	0.5	0.9	1.3	1.5	3.5
-23	0.4	0.8	1.2	1.4	3.0
-25	0.4	0.8	1.1	1.3	3.0
-27	0.35	0.7	1.0	1.2	3.0
-29	0.3	0.6	0.9	1.2	2.5
-31	0.3	0.5	0.8	1.1	2.0
-33	0.2	0.4	0.6	0.8	1.5
-35	0.15	0.3	0.5	0.6	1.5
-36	0.1	0.25	0.4	0.5	1.1
-37	0.1	0.2	0.3	0.4	0.8
-38	0.1	0.15	0.2	0.3	0.6
-39	0.05	0.1	0.2	0.3	0.5
-40	0.05	0.1	0.15	0.2	0.4

The weights for each position were taken from this table, and the sum of the two weights, when observations were obtained in more than one of the four circle positions, *AW*, *AE*, *BW*, *BE*, constitutes the adopted catalogue-weight. In practice, the above table applies sufficiently well, without taking into account the separate positions, when the whole number of observations in the Catalogue is less than five. The last column under the caption "8 obs." refers to the numerous stars that were symmetrically observed twice in each of the four positions of the circles.

(25) **Cape 00.** This includes the zone of reference stars for the astrographic chart, with miscellaneous observations outside the limits of the zone. The systematic corrections, and especially the weights, are largely inferred from the corresponding quantities for Cape 06, since the material for an independent determination is very scanty.





# CORRECTIONS TO THE PRELIMINARY GENERAL CATALOGUE.

- PAGE VII, line Camb 30, for Vol. X read Vol. XI.  
 VIII, line Saff 85, for 1875 read 1885.  
 XIII, for  $-^{\circ}0077$  M ( $-3.5$ ) read  $-^{\circ}0077$  (M $-3.5$ ).  
 XIX, fourth line from bottom, for  $0^{\text{M}}36$  read 0.36.  
 XXVI, eighth line from top, for  $+(8.7367n) \mu^2 \sin \delta$  read  
 $+(8.7367n) \mu^2 \sin 2\delta$ .  
 XXXII, line 27, for Pi 1900 read Pi 1800.
- STAR NO. 387, the degrees of declination should be aligned.  
 515, for 7 Persei ( $\chi$ ); cluster here should read 7 Persei.  
 507 } add in cluster  $h$  Persei.  
 519 }  
 533 } add in cluster  $\chi$  Persei.  
 535 }  
 816, for  $+ .0028$  read  $+ .0034$ .  
 923, Remarks, for 53 Eridani read 36 Eridani.  
 1349, the degrees of declination should be aligned.  
 1561, for  $4^{\text{M}}2$  read var.  $3^{\text{M}}2$  to  $4^{\text{M}}2$ .  
 1641-2, both notes pertain to 1642.  
 1706, for  $S$  Monocerotis read Br. 981.  
 1706, for var. read 5.2 and delete  $4^{\text{M}}9$  to  $5^{\text{M}}4$  in footnote.  
 2033, for  $^{\circ}008$  read  $-^{\circ}008$ .  
 2087, for  $\alpha$  Puppis read L 3044.  
 2973, for  $+08^{\circ}$  read  $+8^{\circ}$ .  
 3064, for  $-5^{\circ}$  read  $-75^{\circ}$ .  
 3356, for  $22^{\text{H}}16$  read  $23^{\text{H}}16$ .  
 3693, for L 5920 read L 5921.  
 3885, for  $-^{\circ}013$  read  $+^{\circ}013$ .  
 4067, for 47 Libræ read 49 Libræ.  
 4493, for Sagittarii read Sagittarii.  
 4936, for  $+^{\circ}0025$  read  $+^{\circ}0027$ .  
 4955, for  $-6^{\circ}853$  read  $+6^{\circ}853$ .  
 5067, for X Cygni read Pulk<sub>ss</sub> 2836.  
 5349, for  $-^{\circ}0002$  read  $+^{\circ}0001$ .  
 5447-9, invert bracket in remarks, so that both notes apply to 5448.  
 5660, for  $343^{\circ}$  read  $243^{\circ}$ , footnote.
- PAGE 9, heading, for  $\eta'$  read  $\mu'$ .  
 266, line 11 from bottom, for Doberk read Doberck.  
 267, line 4, for  $a^2$  read  $a^1$ .  
 267, line 6, for  $a^1$  read  $a^2$ .  
 274, line 28, for  $-1.33$  read  $-2.33$ .  
 279, line 26, insert comma after "observed right-ascension."  
 280, in formula, for  $e_2$  read  $(e_1)^2$ .  
 280, line 10 from bottom, for  $\approx^{\circ}30$  read  $\approx^{\circ}30$ .  
 340, line 1, for 1880 to 1884 read 1880 and 1884.









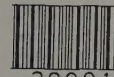




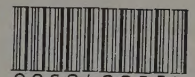




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